

**LUDLUM MODEL 375
WEBPAGE AND SUPERVISOR SERVICE
SOFTWARE MANUAL**

April 2014

Version 1.6.9

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Section

1

Introduction

The Ludlum Model 375 Webpage and Supervisor Service is a radiation network software package that collects and displays radiation levels and alarm status from up to fifty Model 375 series area monitors. The Ludlum Model 375 is a wall-mount digital area monitor that can be equipped with an Ethernet interface. Some area monitors such as the 375-10 have Ethernet built in while others can be updated using an Ethernet kit. The Ethernet kit can be installed by the customer or the area monitors can be sent back to LMI for installation. Using this interface, radiation data may be placed onto the Ethernet network for real-time monitoring, email alerts, and stored into a database for later analysis.

With the Ethernet interface, the area monitor can be connected to the network allowing for real time monitoring of radiation data, email alerts, and database logging. A standard web browser is used to view the current status and query the data.

The Webpage and Supervisor Service software includes the following components:

- ☢ Model 375 Supervisor Service
- ☢ ASP Web Application
- ☢ Device Finder
- ☢ Service Utility
- ☢ Area Monitor Utility

Model 375 Supervisor Service

The Supervisor is a Windows™ service that listens for connections from the area monitors. Once a connection is made, the Supervisor collects and processes the data. Data is logged into a SQL database and can be optionally configured to save data into a comma separated (.CSV) text file. The Supervisor also sends E-Mails when an alarm or failure occurs. The Supervisor currently supports a maximum of 50 area monitors.

ASP Web Application

Hosted on Internet Information Service (IIS), the ASP.NET application provides a web interface to view the current status of each area monitor from any computer that has access to the web server. A floor plan view displays the current status of each instrument overlayed on top of an image of the building's layout. Also available are the incident summary and timeline data for each area monitor. Ten user-defined fields are available to enter comments about the recorded incidents. Comments can be added by clicking on the View button next to each incident.

Device Finder

The Device Finder application is used to search the network for any area monitors and display the IP Address and firmware version. Because the Device Finder application uses UDP to discover the area monitors, search results will typically be limited to the local subnet.

Service Utility

The Service Utility is used to add and remove area monitors, configure E-Mail settings, and to configure the SQL server database.

Area Monitor Utility

There are currently two Ethernet firmware versions available. Version 39801N10 requires the Area Monitor Utility to configure the Ethernet settings. The Ethernet settings of version 39801N12 and later are configured by entering the Area Monitor's IP address in a web browser.

Radiation data is logged into a Microsoft SQL Server database at user-defined intervals. The Supervisor service supports SQL Server 2005 and later and will also work with the free Express edition. SQL Server 2008 Express is included on the installation CD. Data is logged for each area monitor at two different intervals depending on the status. The normal logging interval is used when the status of the area monitor is OK. The alarm logging interval is used when the area monitor is alarming or has failed. Two intervals allow more data to be collected during an alarm or failure.

The area monitors can be grouped using several fields to aid in management. These fields are:

-  Site
-  Building
-  Area
-  Location

Section

2

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Section

3

Getting Started

The Ludlum Model Ethernet Service is installed from the Ludlum installation CD. Microsoft SQL Server and the Internet and Information Services (IIS) must be installed (from the appropriate Windows source) before installing the service and web application. **NOTE:** Unless otherwise specified, the area monitors are all configured with a default IP Address of 10.10.6.100. Do not connect all area monitors to the network at the same time. Start by adding one area monitor to the network, configure it and then add the rest one at a time.

NOTE: Previous versions required the setup of an FTP server to allow cameras to be used. This version no longer requires the use of the FTP server.

Minimum Requirements – Windows XP**Processor**

600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended

Operating System

Windows XP Professional with Service Pack 3 or later

Memory

512 megabytes (MB) or more recommended

Hard Disk

Approximately 1 GB of available hard-disk space for the installation

Drive

CD-ROM or DVD-ROM drive

Display

Super VGA (1,024x768) or higher-resolution video adapter and monitor

Other

.NET Framework 4.0—available on Ludlum installation CD

Microsoft SQL Server 2008 R2 Express—available on Ludlum installation CD

Internet Information Services 5.1—available on Windows Install CD

Minimum Requirements – Windows Vista**Processor**

1 gigahertz (GHz) 32-bit (x86) or 64-bit (x64) processor

Operating System

Windows Vista Home Premium or higher with SP2

Memory

1 gigabyte (GB) or more recommended

Hard Disk

Approximately 15 GB of available hard-disk space for the installation

Drive

CD-ROM or DVD-ROM drive

Display

DirectX 9 graphics device with WDDM 1.0 or higher driver

Other

.NET Framework 4.0—available on Ludlum installation CD

Microsoft SQL Server 2008 R2 Express —available on Ludlum installation CD

Internet Information Services 7.0—available on Windows Install CD

Minimum Requirements – Windows 7**Processor**

1 gigahertz (GHz) 32-bit (x86) or 64-bit (x64) processor

Operating System

Windows 7 Home Premium or higher

Memory

1 gigabyte (GB) or more recommended for 32-bit, 2 gigabytes or more recommended for 64-bit

Hard Disk

Approximately 16 GB of available hard-disk space for 32-bit, 20 GB of available hard-disk space for 64-bit

Drive

CD-ROM or DVD-ROM drive

Display

DirectX 9 graphics device with WDDM 1.0 or higher driver

Other

.NET Framework 4.0—available on Ludlum installation CD

Microsoft SQL Server 2008 R2 Express —available on Ludlum installation CD

Internet Information Services 7.5—available on Windows Install CD

Minimum Requirements – Windows Server 2003**Processor**

550 megahertz (MHz) processor or more recommended

Operating System

Windows Server 2003 Standard

Memory

256 megabytes (MB) or more recommended

Hard Disk

2 GB of available hard-disk space

Drive

CD-ROM or DVD-ROM drive

Display

Super VGA (800 × 600) or higher resolution monitor

Other

.NET Framework 4.0—available on Ludlum installation CD

Microsoft SQL Server 2008 R2 Express —available on Ludlum installation CD

Internet Information Services 6.0—available on Windows Install CD

Minimum Requirements – Windows Server 2008**Processor**

1 gigahertz (GHz) processor, 2 GHz recommended

Operating System

Windows Server 2008 Standard

Memory

512 megabytes (MB) or more recommended

Hard Disk

32 gigabytes (GB) recommended

Drive

CD-ROM or DVD-ROM drive

Display

Super VGA (800 × 600) or higher resolution monitor

Other

.NET Framework 4.0—available on Ludlum installation CD

Microsoft SQL Server 2008 R2 Express —available on Ludlum installation CD

Internet Information Services 7.0—available on Windows Install CD

Installation Overview – Single Server

There are several parts to the installation of this package, all of which may not be necessary depending on the initial status of the computer. Several components of the installation (.NET, SQL Server 2005/2008, and IIS) are components of Microsoft Windows, or are available free of charge from Microsoft. They may or may not already be installed on the computer.

NOTE: The Service Computer **MUST** be assigned a static IP on the network in order for the Model 375 Supervisor and Service to function correctly. Many sites have an IT (Information Technology) group or a Network Administrator that handles this assignment. If you must request this information, be sure to ask for:

1. Fixed IP address
2. Network mask
3. Gateway (to access other subnets)
4. DNS

The list on the following page is an overview of the steps necessary to get everything up and running. For best results, bookmark the following page for easy reference.

Some of the listed installation steps contain different sets of instructions for different operating systems. Page numbers are included with each step to allow for easier navigation of the manual.

See Figure 1 for a diagram showing how the Model 375 Area Monitors are connected to a single server.

1. Install Internet Information Services (IIS)
 - Windows XP – Page 27
 - Windows Vista – Page 29
 - Windows 7 – Page 32
 - Windows Server 2008 – Page 36
 - Windows Server 2003 – Page 42

2. Install Microsoft .NET Framework 4.0 – Page 45

3. Install SQL Server – Page 46

This step is only necessary if SQL Server is not already installed on the Supervisor computer and you plan to use the SQL Server 2008 Express installation package provided by LMI.

4. Install Model 375 Web Page and Supervisor Service – Page 52

5. Configure SQL Server Manually (optional) – Page 59

This step is only necessary if SQL Server was not automatically configured in the Model 375 Web Page And Service installation.

6. Configure Internet Information Services Manually (optional)

This step is only necessary if IIS was not automatically configured in the Model 375 Web Page and Supervisor Service installation.

Windows XP – Page 66

Windows Vista – Page 70

Windows 7 – Page 73

Windows Server 2008 – Page 77

Windows Server 2003 – Page 81

7. Configure Model 375 Supervisor Service using the Service Utility – Page 94

8. Configure each Model 375 Area Monitor

If your area monitor has Ethernet firmware version N12 or later, refer to Page 89. Otherwise, refer to Page 91.

9. Configure cameras (optional) – Page **Error! Bookmark not defined.**

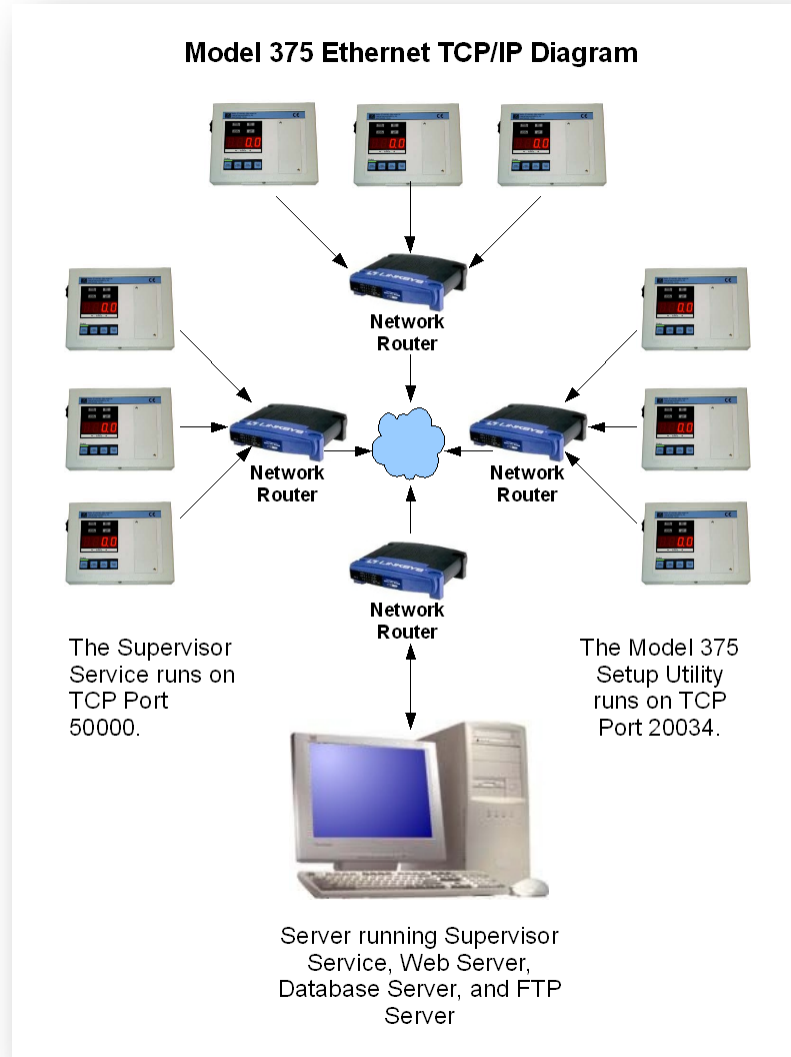


Figure 1 – Single Server Network Diagram

Installation Overview - Multiple Servers

The Model 375 Web Page and Supervisor Service can also be installed using multiple servers, if desired. It is possible to install the webpage, Supervisor service, and SQL Server database on separate servers.

The following is an overview of the steps necessary to get everything up and running. For best results, bookmark the following page for easy reference.

Some of the listed installation steps contain different sets of instructions for different operating systems. Page numbers are included with each step to allow for easier navigation of the manual.

See Figure 2 for a diagram showing how the Model 375 Area Monitors are connected to multiple servers.

1. Install the Model 375 Supervisor Service on the server that will host the Supervisor service.

NOTE: If the Microsoft .NET 4.0 Framework is not installed refer to page 45 to install the .NET 4.0 Framework before proceeding.

Refer to the “Install Model 375 Web Page and Service” section on Page 52. Make sure that the “Model 375 Supervisor Service”, “Model 375 Supervisor Server Utility”, and the “Model 375 Setup Utility” options are the only installation options chosen before completing installation.

After installation is complete, leave the “Start Model 375 Supervisor Service” option checked before clicking “Finish”.

Open the Service Utility and configure the Supervisor service, as desired. Refer to page 94 for further details on the Service utility.

After the Supervisor service is configured, browse to the directory where the Supervisor service is installed. There should be a file named “settings.config”. Save this file to a removable media device; you will need to copy this file to the server hosting the Model 375 Webpage.

2. Install the Model 375 Webpage on the server that will host the Model 375 Webpage.

NOTE: If the Microsoft .NET 4.0 Framework is not installed on the server, refer to page 45 to install the .NET 4.0 Framework before proceeding.

Refer to the “Install Model 375 Web Page and Supervisor Service” section on Page 52. Make sure that the “Model 375 Webpage” option is the only installation option chosen. If it is desired to configure Internet Information Services automatically, the IIS Configuration option should also be selected.

After installation is complete, copy the “settings.config” file from Step 1 to the directory where the Model 375 Webpage installation directory.

3. Install Internet Information Services (IIS) on the server that will host the Model 375 Webpage.

Refer to the appropriate page from the list below to install IIS.

Windows XP – Page 27

Windows Vista – Page 29

Windows 7 – Page 32

Windows Server 2008 – Page 36

Windows Server 2003 – Page 42

4. Configure Internet Information Services (IIS) on the server that will host the Model 375 Webpage (optional).

If IIS was automatically configured during the Model 375 Web Page and Supervisor Service installation, no further configuration is necessary.

If IIS was not automatically configured during the Model 375 Web Page and Supervisor Service installation, refer to the appropriate page from the list below to configure IIS.

Windows XP – Page 66

Windows Vista – Page 70

Windows 7 – Page 73

Windows Server 2008 – Page 77

Windows Server 2003 – Page 81

5. Install SQL Server on the server that will host the Model 375 Database (optional)

If SQL Server is already installed on the server hosting the Model 375 database, proceed to the next step.

If SQL Server is not installed and you plan to install SQL Server 2008 Express from the LMI CD, refer to page 46.

6. Configure SQL Server on the server that will host the Model 375 Database (optional)

The Model 375 Web Page and Supervisor Service installation package can be used to automatically configure SQL Server for use with the Model 375 Supervisor Service. To do this, simply run the Model 375 Web Page and Supervisor Service setup and uncheck every option except for the “Configure SQL Server 2005/2008” option.

If you need to configure SQL Server manually, refer to page 59.

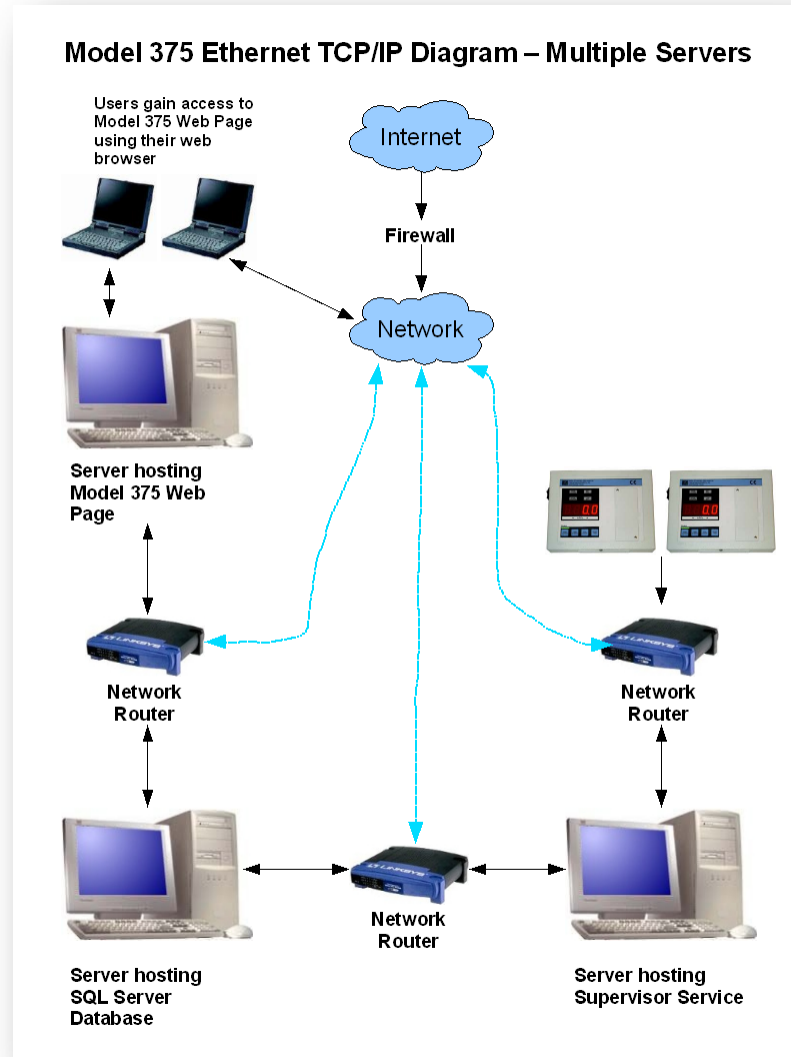


Figure 2– Multiple Servers Network Diagram

Upgrading an Existing Web Page and Supervisor Service Installation – Windows XP

1. Click on the Start Menu, then click on “Control Panel”.
2. Double-click on “Add/Remove Programs”.
3. Scroll through the list of currently installed programs and find “Model 375 Supervisor Service”.

NOTE: If “Model 375 Supervisor Service” does not exist, proceed to

either the “Installation Overview – Single Server” section on page 9 or the “Installation Overview – Multiple Servers” section on page 11, whichever is appropriate.

4. Click on “Model 375 Supervisor Service” and click the “Remove” button.
5. Click “Yes” in the confirmation prompt to proceed with un-installation of the Model 375 Supervisor Service.
6. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the “setup_xp” setup file.
7. When un-installation is complete, proceed to the “Completing the Web Page and Supervisor Service Upgrade” section on page 21.

Upgrading an Existing Web Page and Supervisor Service Installation – Windows Vista

1. Click on the Start Menu, then click on “Control Panel”.
2. If the Control Panel resembles Figure 3, the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “Programs”, then click on “Programs and Features”. If the Control Panel is not set to Category view, click on “Programs and Features”

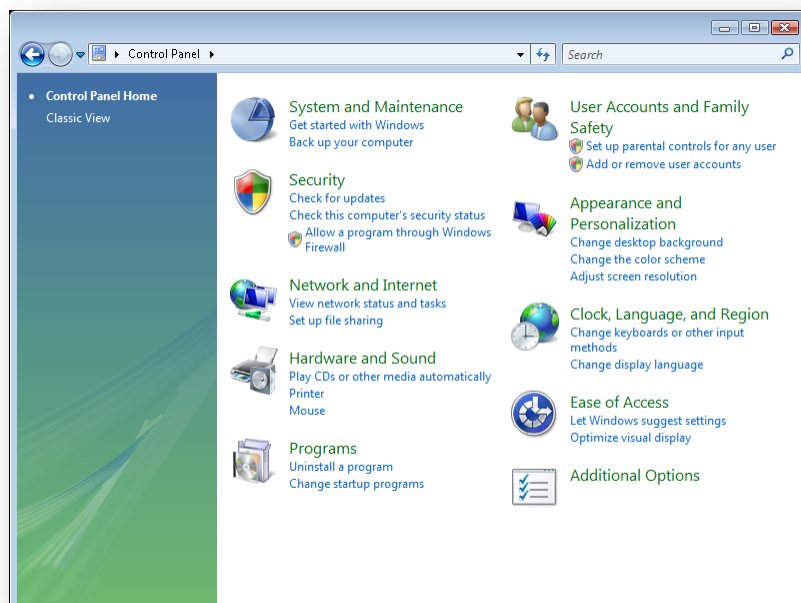


Figure 3 - Control Panel

See Figure 4 for a screen shot of the Programs and Features window.

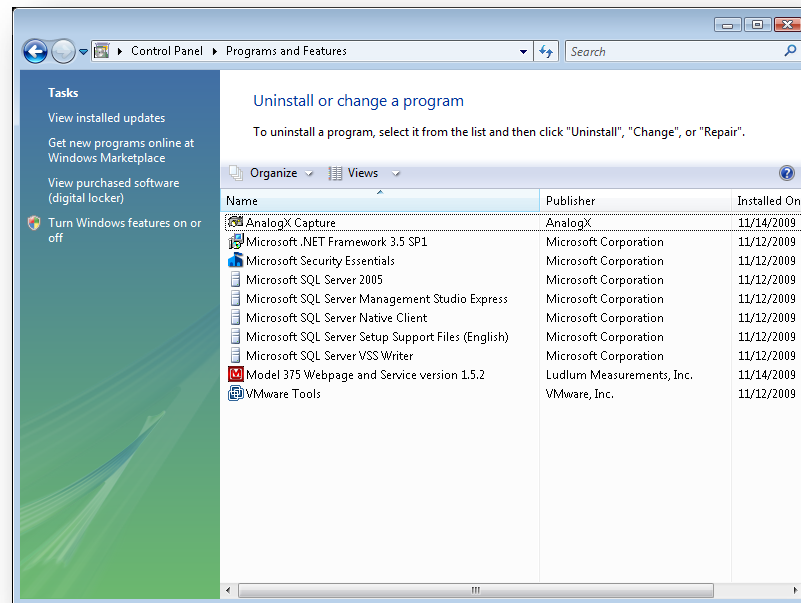


Figure 4 – Programs and Features window

3. Scroll through the list of currently installed programs and find “Model 375 Supervisor Service”.

NOTE: If “Model 375 Supervisor Service” does not exist, proceed to either the “Installation Overview – Single Server” section on page 9 or the “Installation Overview – Multiple Servers” section on page 11, whichever is appropriate.

4. Click on “Model 375 Supervisor Service” and click the “Remove” button.
5. Click “Yes” in the confirmation prompt to proceed with un-installation of the Model 375 Supervisor Service.
6. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the “setup_vista” setup file.
7. When un-installation is complete, proceed to the “Completing the Web Page and Supervisor Service Upgrade” section on page 21.

Upgrading an Existing Web Page and Supervisor Service Installation – Windows 7

1. Click on the Start Menu, then click on “Control Panel”.
2. If the Control Panel resembles Figure 5 the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “Programs”, then click on “Programs and Features”.

If the Control Panel is not set to Category view, click on “Programs and Features”.

3. See Figure 5 for a screen shot of the Programs and Features window.

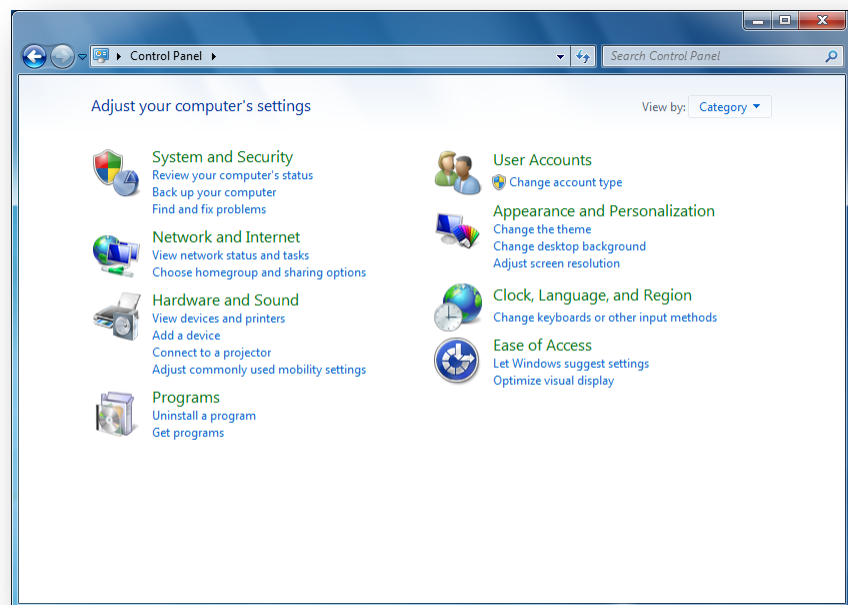


Figure 5 – Control Panel in Category View

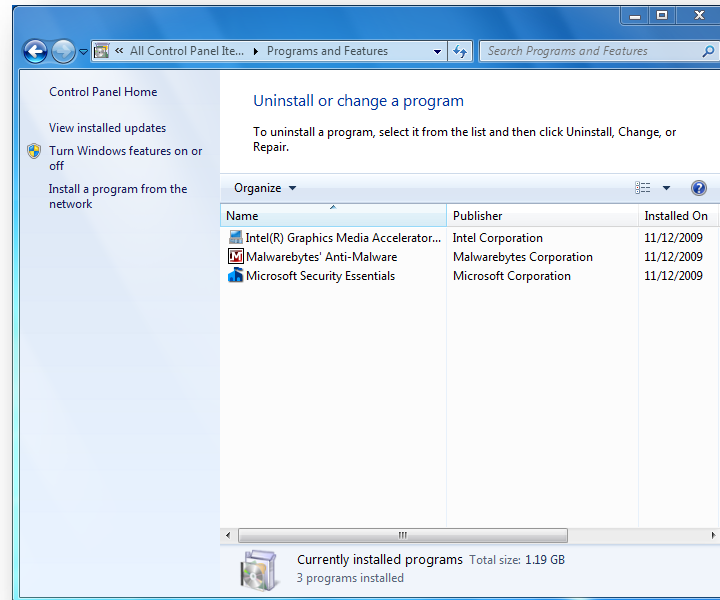


Figure 6 – Programs and Features window

4. Scroll through the list of currently installed programs and find “Model 375 Supervisor Service”.

NOTE: If “Model 375 Supervisor Service” does not exist, proceed to either the “Installation Overview – Single Server” section on page 9 or the “Installation Overview – Multiple Servers” section on page 11, whichever is appropriate.

5. Click on “Model 375 Supervisor Service” and click the “Remove” button.
6. Click “Yes” in the confirmation prompt to proceed with un-installation of the Model 375 Supervisor Service.
7. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the “setup_win7” setup file.
8. When un-installation is complete, proceed to the “Completing the Web Page and Supervisor Service Upgrade” section on page 21.

Upgrading an Existing Web Page and Supervisor Service Installation – Windows Server 2008

1. Click on the Start Menu, then click on “Control Panel”.

2. If the Control Panel resembles Figure 7, the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “Programs”, then click on “Programs and Features”.

If the Control Panel is not set to Category view, click on “Programs and Features”.

3. See Figure 7 for a screen shot of the Programs and Features window.



Figure 7 – Control Panel in Category View

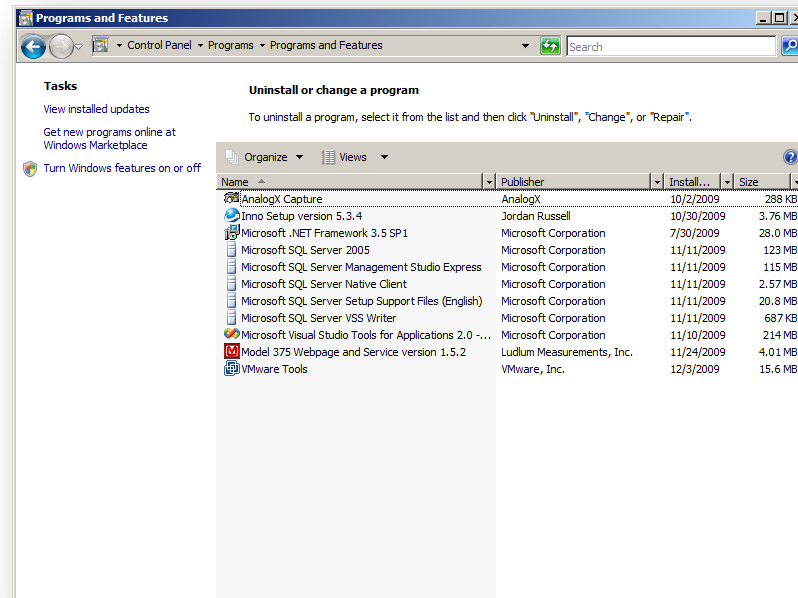


Figure 8 – Program and Features window

4. Scroll through the list of currently installed programs and find “Model 375 Supervisor Service”.

NOTE: If “Model 375 Supervisor Service” does not exist, proceed to either the “Installation Overview – Single Server” section on page 9 or the “Installation Overview – Multiple Servers” section on page 11, whichever is appropriate.

5. Click on “Model 375 Supervisor Service” and click the “Remove” button.
6. Click “Yes” in the confirmation prompt to proceed with un-installation of the Model 375 Supervisor Service.
7. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the “setup_ws2008” setup file.
8. When un-installation is complete, proceed to the “Completing the Web Page and Service Upgrade” section on page 21.

Upgrading an Existing Web Page and Supervisor Service Installation – Windows Server 2003

1. Click on the Start Menu, point the cursor at “Control Panel”, and click on “Add or Remove Programs”.
2. Scroll through the list of currently installed programs and find “Model 375 Supervisor Service”.

NOTE: If “Model 375 Supervisor Service” does not exist, proceed to either the “Installation Overview – Single Server” section on page 9 or the “Installation Overview – Multiple Servers” section on page 11, whichever is appropriate.

3. Click on “Model 375 Supervisor Service” and click the “Remove” button.
4. Click “Yes” in the confirmation prompt to proceed with un-installation of the Model 375 Supervisor Service.
5. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the “setup_ws2003” setup file.
6. When un-installation is complete, proceed to the “Completing the Web Page and Service Upgrade” section below.

Completing the Web Page and Supervisor Service Upgrade

The following instructions are for completing the upgrade to the new Model 375 Web Page and Supervisor Service Software version. These instructions assume that the Model 375 Web Page and Supervisor Service is uninstalled.

1. When the Welcome screen appears, click “Next”. See Figure 9.

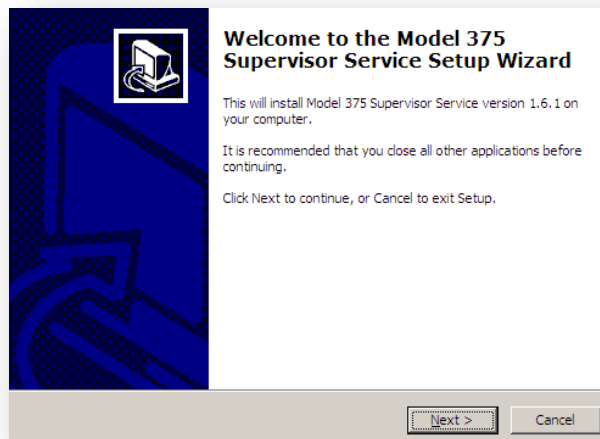


Figure 9 – Model 375 Web Page and Supervisor Service installation welcome screen

2. If the installer is running with Administrative privileges, click “Next”. See Figure 10.

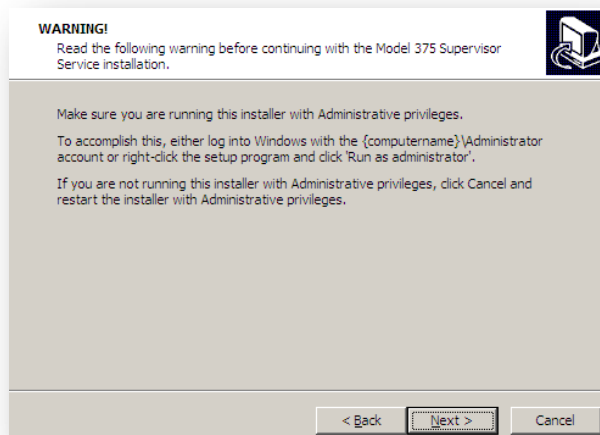


Figure 10 – Model 375 Web Page and Supervisor Service installation warning screen

3. Click “Next” to accept the license agreement. See Figure 11.

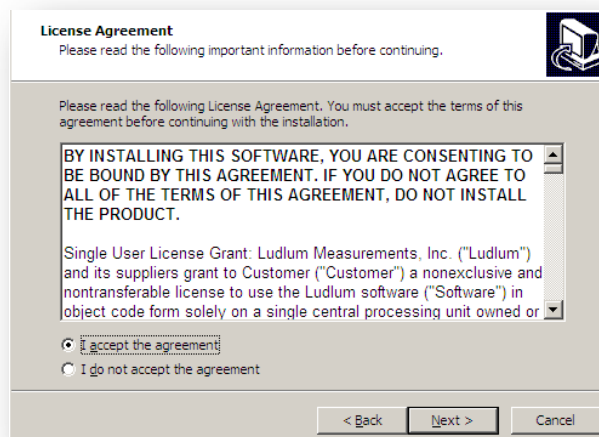


Figure 11 – Model 375 Web Page and Supervisor Service License Agreement screen

4. Click “Next” to accept the default component selections. See Figure 12.

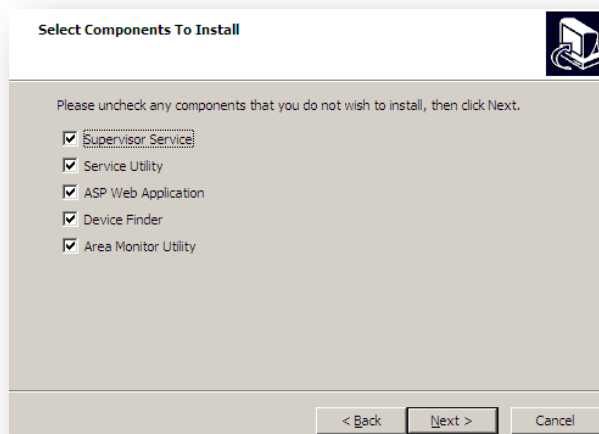


Figure 12 – Model 375 Web Page and Supervisor Service Selection Screen 1

5. Click “Next” to accept the default database configuration selection. See Figure 13.

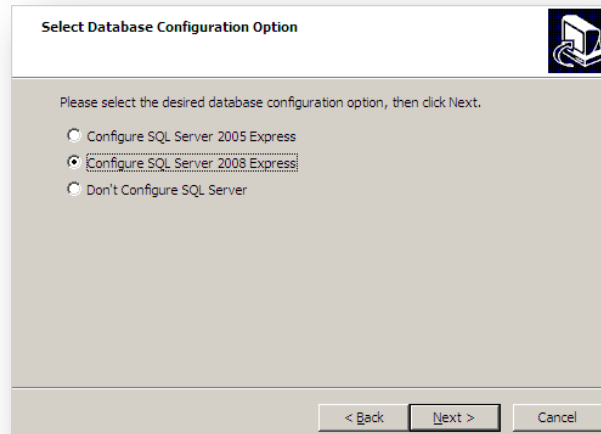


Figure 13 – Model 375 Web Page and Supervisor Service Selection screen 2

6. Uncheck the “Configure Internet Information Services (IIS)” option and click “Next”. See Figure 14.

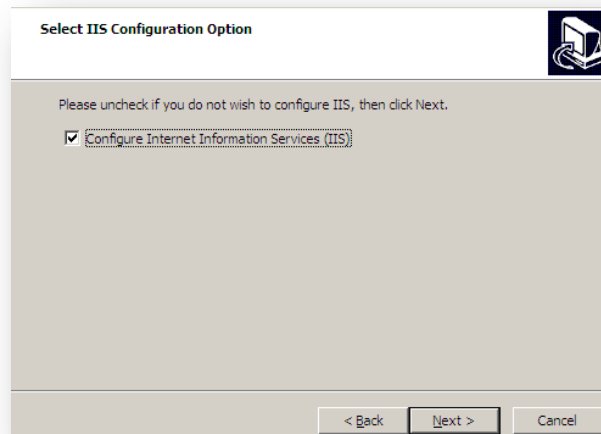


Figure 14 – Model 375 Web Page and Supervisor Service Configure IIS

7. Click “Next” to accept the default installation directory, or click “Browse” to select a different installation directory. See Figure 15.

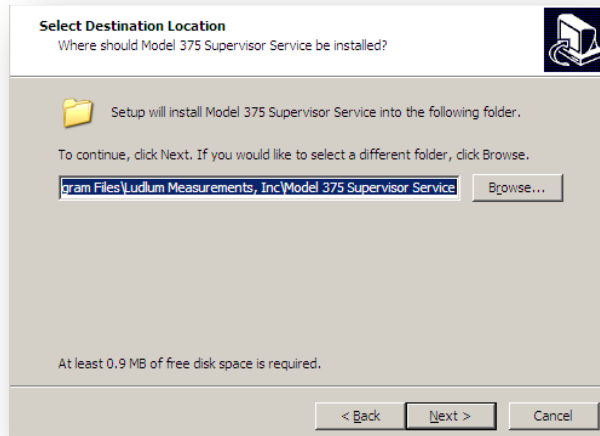


Figure 15 – Model 375 Web Page and Supervisor Service Installation Location

8. Verify that the selected options are correct and click “Next” to begin installation. See Figure 16.

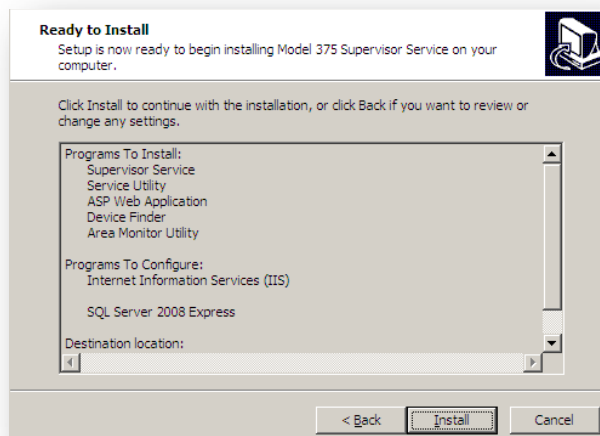


Figure 16 – Model 375 Web Page and Supervisor Service Ready to Install

9. When installation is complete, your screen should resemble Figure 17.

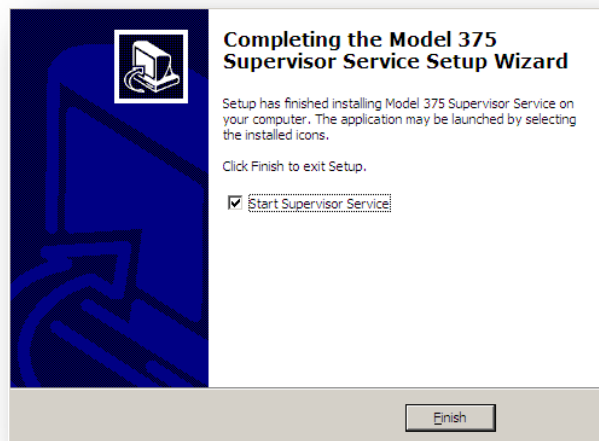


Figure 17 – Model 375 Web Page and Supervisor Service Installation Finished

10. Before starting the Supervisor service, open the SQL Server Management Studio.
11. Open the file **UpgradeAreaMonitorTable.sql** which is located on the installation CD on in the sql folder where the Supervisor service is installed.
12. Execute the SQL script to update the table for the new version.
13. After the script runs, click finish on the installer.
14. If the Model 375 Supervisor Service was functioning correctly before the upgrade, no further action is required.

Section

4

IIS Installation

The steps to install IIS will be different depending on the operating system. Refer to applicable operating system documentation for the correct procedure to install IIS. A Windows Operating System CD may be required to complete installation.

IIS Server Installation – Windows XP

These instructions are for installing Internet Information Services under Windows XP Professional. The Windows Install CD may be required.

1. Navigate to the Control Panel and double-click on Add/Remove Programs
2. Click on Add/Remove Windows Components. See Figure 18.

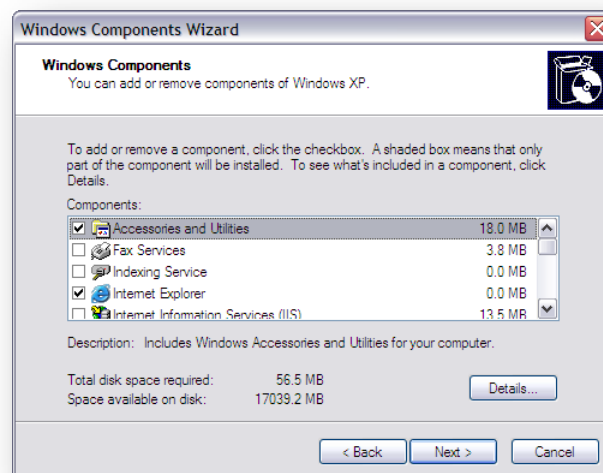


Figure 18 – Windows Components Wizard

3. Check “Internet Information Services (IIS)” and click the “Details...” button. See Figure 19.

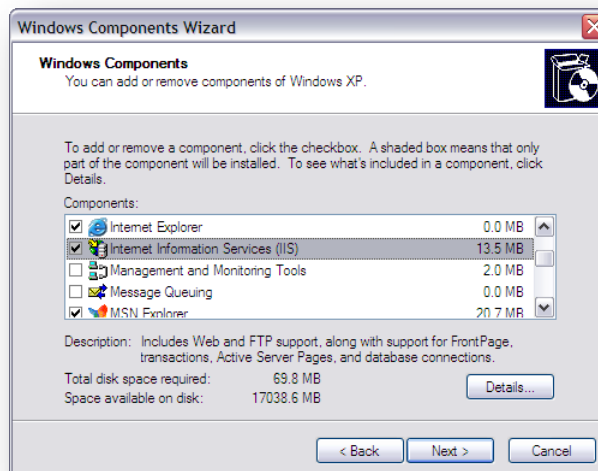


Figure 19 – Windows Components Wizard

4. Uncheck SMTP Service, and click “OK”. See Figure 20.

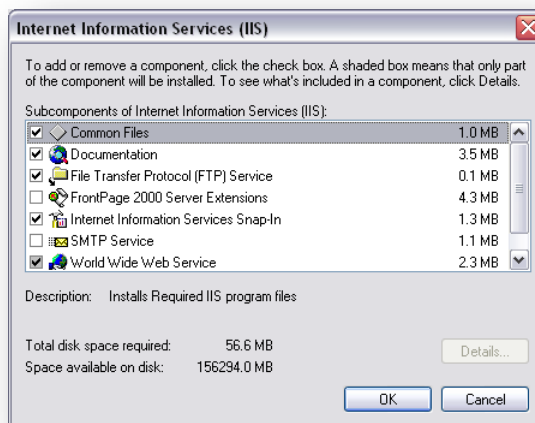


Figure 20 – Internet Information Services (IIS)

5. Click “Next” to install IIS.
6. When installation is complete, click “Finish” and proceed to the “.NET Framework 4.0 Installation” section on page 45.

IIS Server Installation – Windows Vista

These instructions are for installing Internet Information Services under Windows Vista. The Windows CD may be required.

1. Click on the Start Menu, then click on “Control Panel”.
2. If the Control Panel resembles Figure 21, the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “Programs”, then click on “Programs and Features”.

If the Control Panel is not set to Category view, click on “Programs and Features”.

3. See Figure 22 for a screen shot of the Programs and Features window.

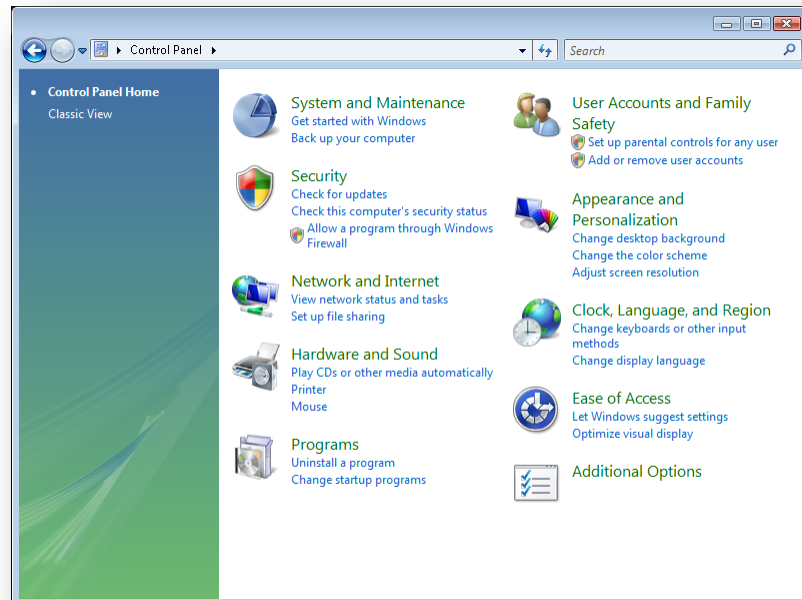


Figure 21 – Control Panel

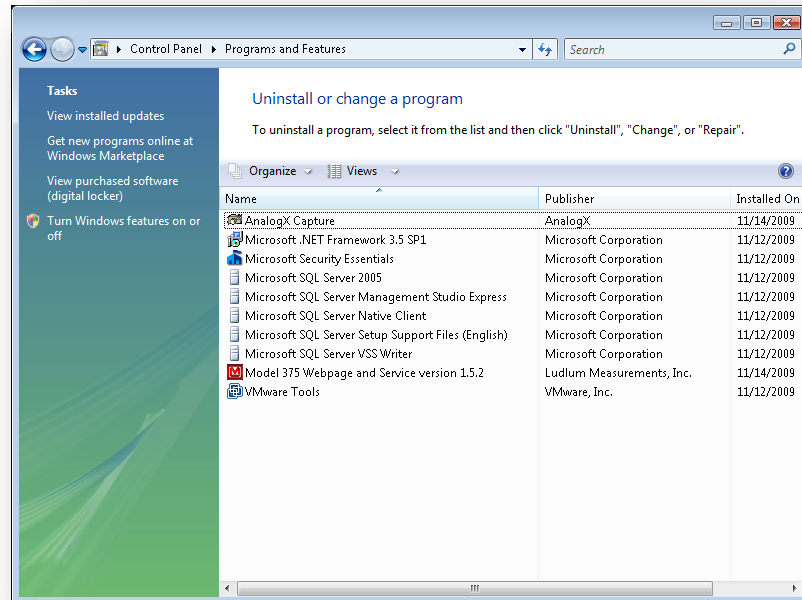


Figure 22 – Program and Features

4. Click on “Turn Windows features on or off”.
5. Click on the plus icon next to “Internet Information Services”.
6. Click on the plus icon next to “Web Management Tools”.
7. Click on the plus icon next to “IIS 6 Management Compatibility” and check the “IIS 6 Scripting Tools” option. Dependent options will be checked automatically.
8. Check the “IIS Management Console” and the “IIS Management Scripts and Tools” options.
9. Click on the plus icon next to “World Wide Web Services”.
10. Click on the plus icon next to “Application Development Features”.
11. Check the “ASP.NET” option. Dependent options will be checked automatically.
12. Click on the plus icon next to “Common HTTP Features” and check the “Static Content” option.

13. Verify that the selected Internet Information Services (IIS) options look like Figure 23 and Figure 24 on the following pages and click “OK” to install Internet Information Services.

NOTE: You may be prompted for the Windows Installation CD.

14. Close the Programs and Features window.

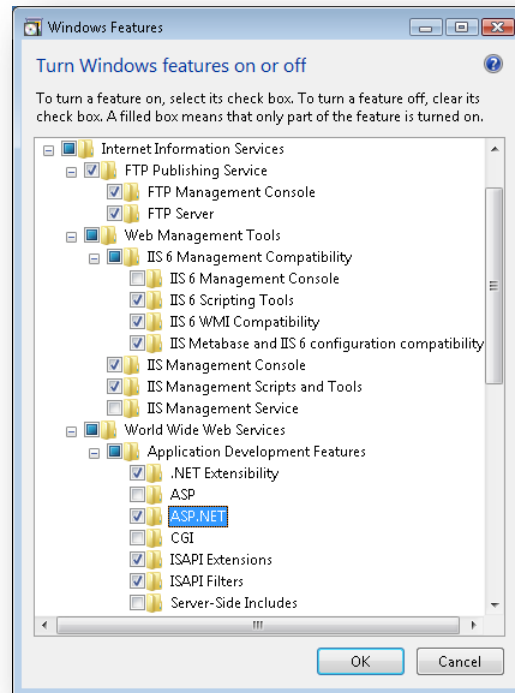


Figure 23 – Windows Features

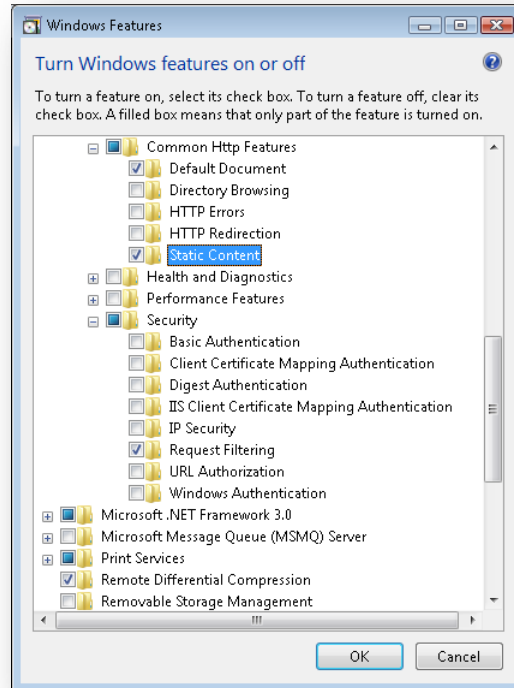


Figure 24 – Windows Features

15. Proceed to the “.NET Framework 4.0 Installation” section on page 45.

IIS Server Installation – Windows 7

These instructions are for installing Internet Information Services under Windows 7. The Windows CD may be required.

1. Click on the Start Menu, then click on “Control Panel”.
2. If the Control Panel resembles Figure 29, the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “Programs”, then click on “Programs and Features”.

If the Control Panel is not set to Category view, click on “Programs and Features”.

3. See Figure 30 for a screen shot of the Programs and Features window.

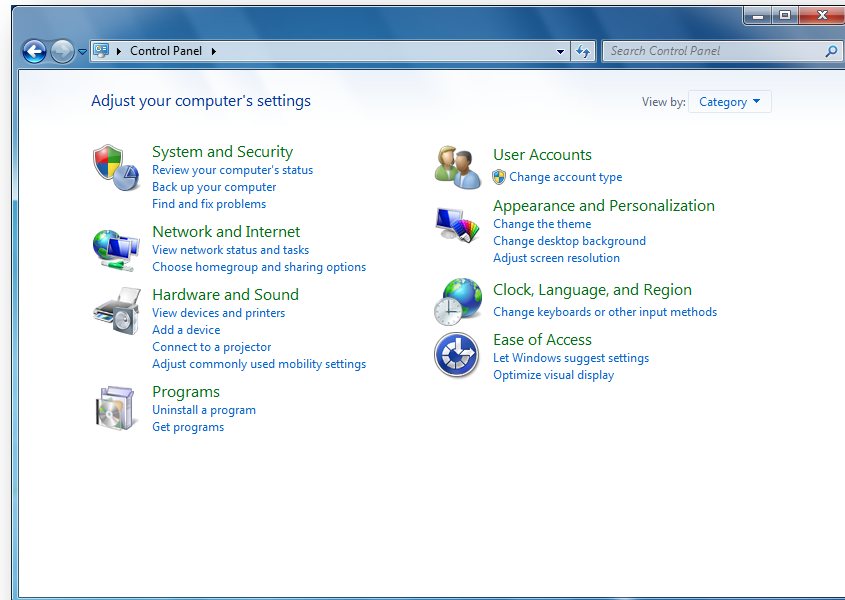


Figure 25 – Control Panel

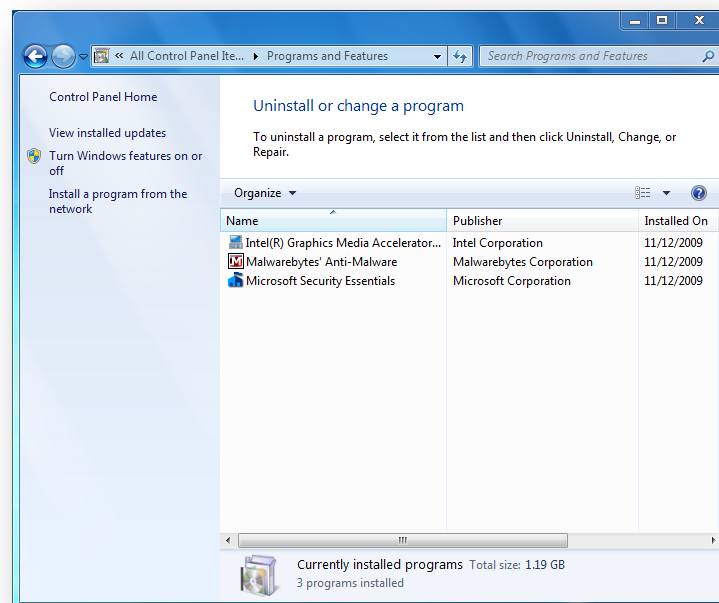


Figure 26 – Programs and Features

- Click on "Turn Windows features on or off" in the left pane of the Programs and Features window.

5. Click on the plus icon next to “Internet Information Services”.
6. Click on the plus icon next to “Web Management Tools”.
7. Click on the plus icon next to “IIS 6 Management Compatibility” and check the “IIS 6 Scripting Tools” option. Dependent options will be checked automatically.
8. Check the “IIS Management Console” and the “IIS Management Scripts and Tools” options.
9. Click on the plus icon next to “World Wide Web Services”.
10. Click on the plus icon next to “Application Development Features”.
11. Check the “ASP.NET” option. Dependent options will be checked automatically.
12. Click on the plus icon next to “Common HTTP Features” and check the “Static Content” option.
13. Verify that your selected Internet Information Services (IIS) options resemble Figure 31 and Figure 32 on the following pages and click “OK” to install Internet Information Services.

NOTE: You may be prompted for the Windows Installation CD.

14. Close the “Programs and Features” window.

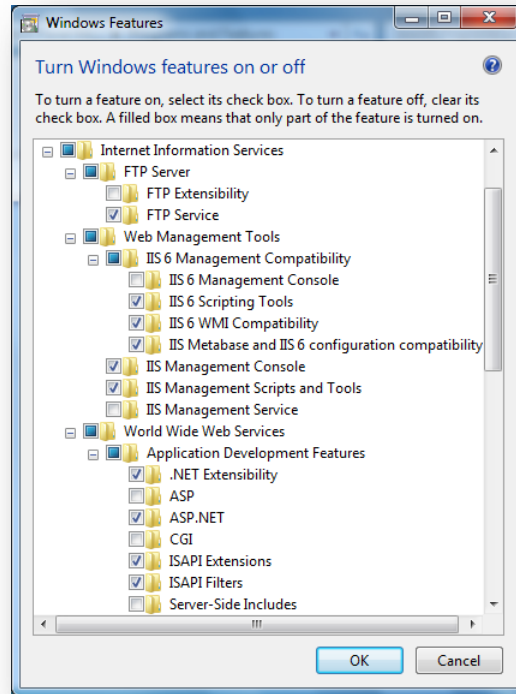


Figure 27 – Windows Features

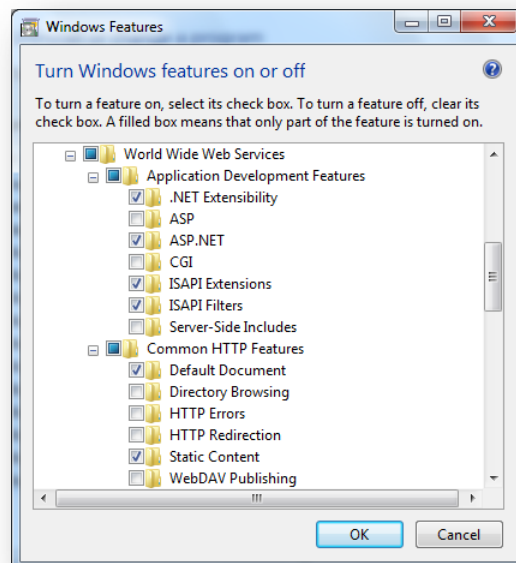


Figure 28 – Windows Features

15. Proceed to the “.NET Framework 4.0 Installation” section on page 45.

IIS Server Installation – Windows Server 2008

These instructions are for installing Internet Information Services under Windows Server 2008. The Windows CD may be required.

Also included are instructions on how to install the Windows Power Shell feature, which is required by SQL Server.

1. Click on the Start Menu and click on “Server Manager” to open the Server Manager window. See Figure 39.

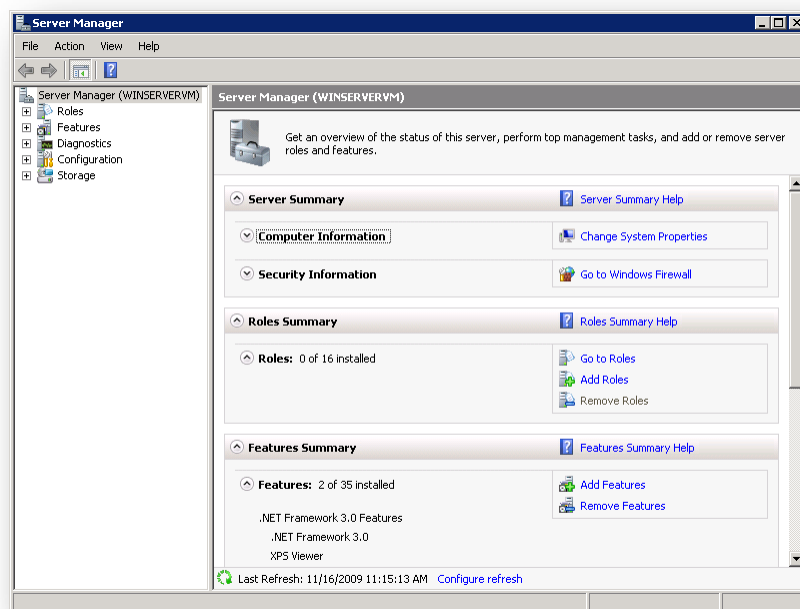


Figure 29 – Server Manager

2. Under the “Roles Summary” group box in the middle pane of the Server Manager window, click on “Add Roles”.
3. In the “Select Server Roles” window, check “Web Server (IIS)” and click “Next.” See Figure 40.

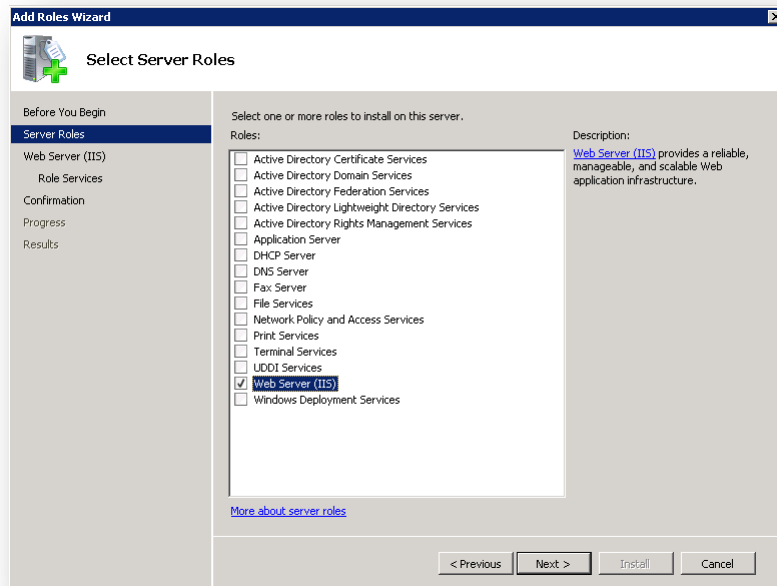


Figure 30 – Add Roles Wizard (Select Server Roles)

4. Under the “Application Deployment” node, check the “ASP.NET” option. When the “Add Roles Wizard” pop-up appears, click “Add Required Role Services”. See Figure 41.

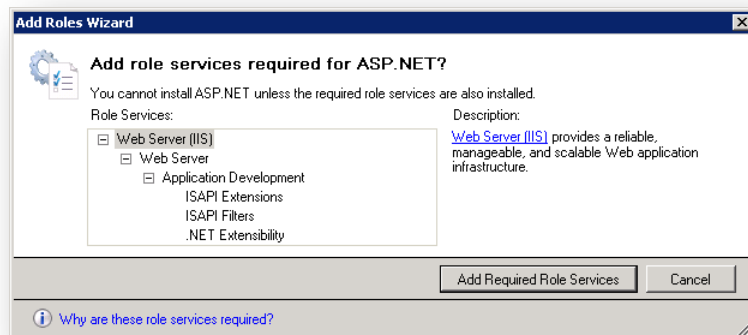


Figure 31 – Add Roles Wizard (Add role services required for ASP.NET)

5. Scroll down and check the “IIS Management Scripts and Tools” option.
6. Check the “IIS 6 Scripting Tools” option. When the “Add Roles Wizard” pop-up appears, click “Add Required Role Services”.
7. Check the “IIS 6 Management Console” option.

8. Verify that the selected role services resemble Figure 42 below and Figure 43, then click “Next”.

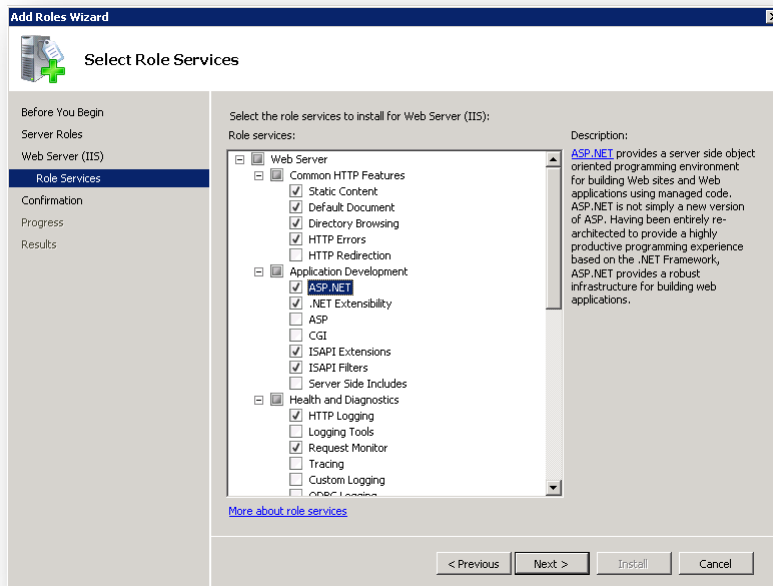


Figure 32 – Add Roles Wizard (Select Role Services 1)

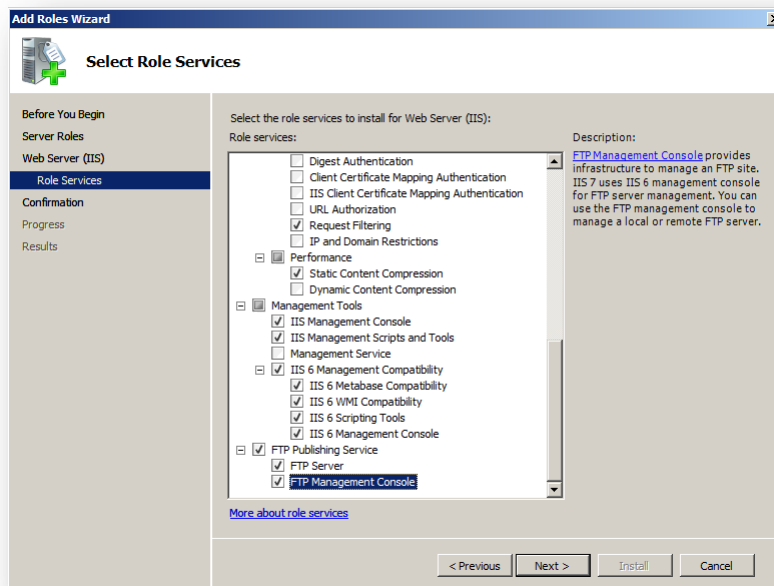


Figure 33 – Add Roles Wizard (Select Role Services 2)

9. Click “Install”. See Figure 44.

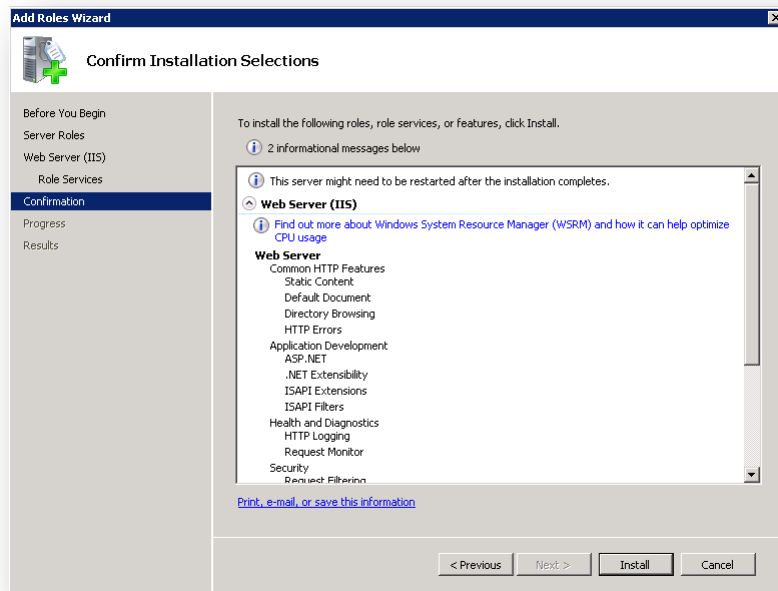


Figure 34 – Add Roles Wizard (Confirm Installation Selections)

10. If Internet Information Services (IIS) is installed successfully, click “Close”. See Figure 45.

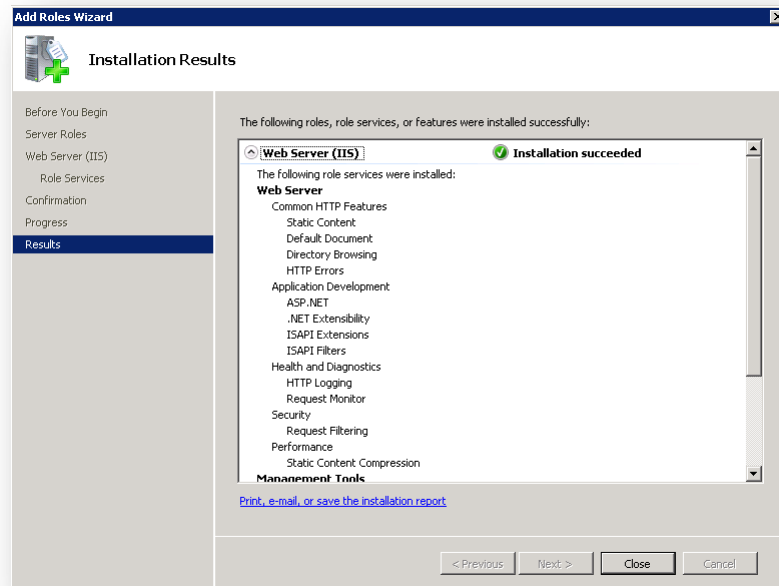


Figure 35 – Add Roles Wizard (Installation Results)

11. In the Server Manager window, under the “Features Summary” group box, click on “Add Features”.
12. In the “Add Features Wizard”, check “Windows Power Shell”. See Figure 46.

NOTE: If the Windows Power Shell checkbox is already checked, Windows Power Shell is already installed. Proceed to the “.NET Framework 4.0 Installation” section on page 45.

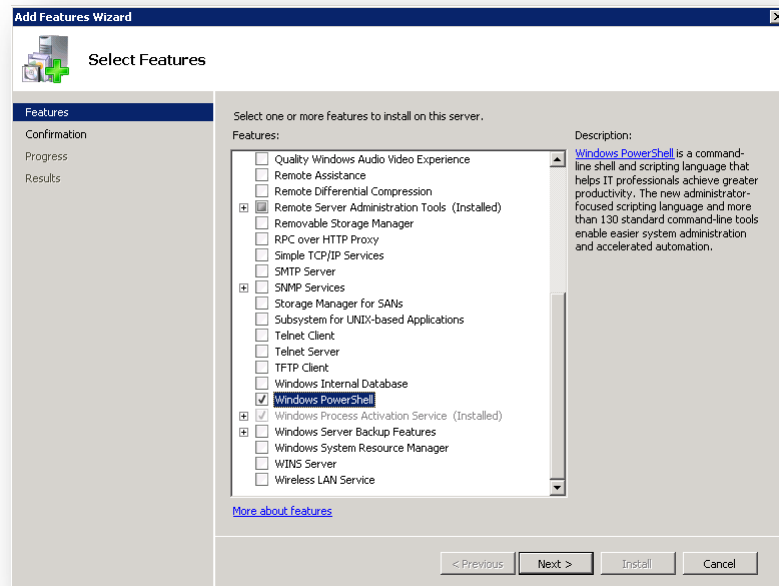


Figure 36 – Add Features Wizard (Select Features)

13. Click “Install” to install Windows Power Shell. See Figure 47.

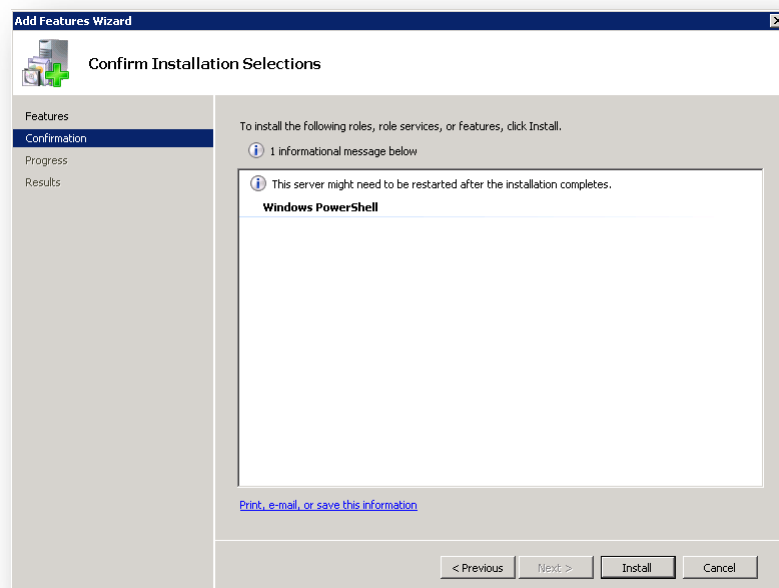


Figure 37 – Add Features Wizard (Confirm Installation Selections)

14. When installation is complete, click “Close”. See Figure 48.

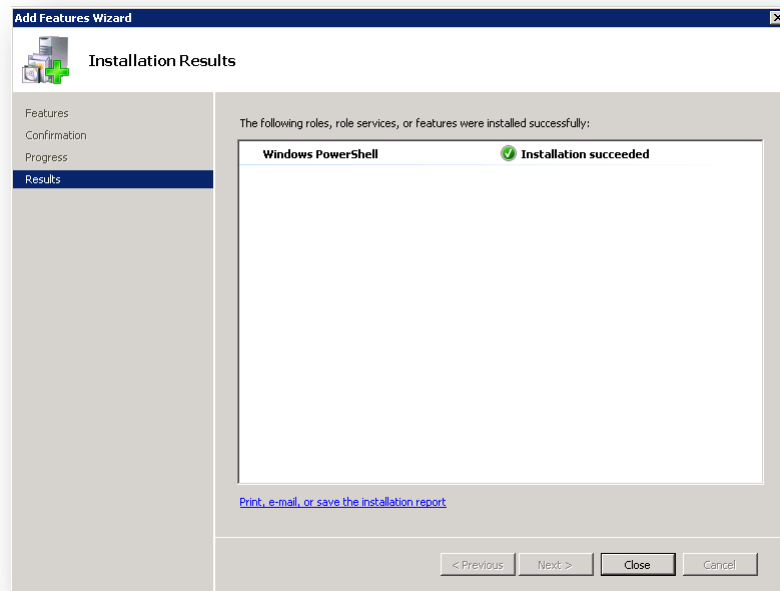


Figure 38 – Add Features Wizard (Installation Results)

15. Proceed to the “.NET Framework 4.0 Installation” section on page 45.

IIS Server Installation – Windows Server 2003

These instructions are for installing Internet Information Services under Windows Server 2003. The Windows CD may be required.

1. Go to the Start menu, click on “Control Panel”, and click on “Add/Remove Programs”.
2. In the “Add/Remove Programs” window, click on the “Add/Remove Windows Components” button. See Figure 51.

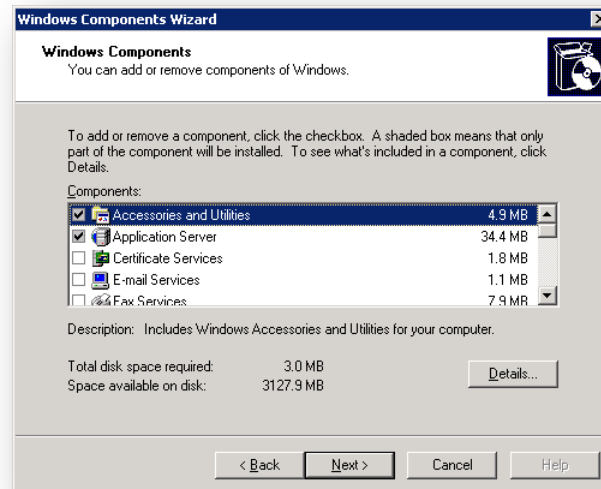


Figure 39 – Windows Components Wizard

3. Click on “Application Server”, then click on the “Details” button. See Figure 52.

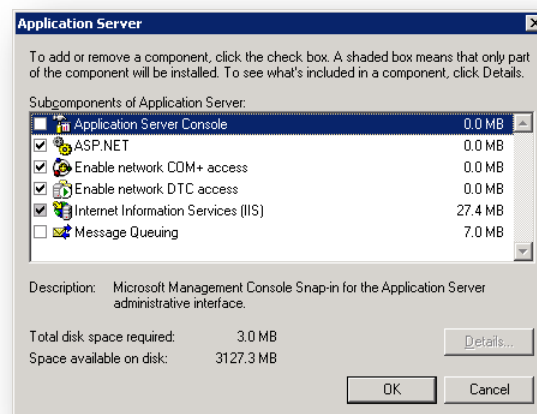


Figure 40 – Application Server

4. Check the box next to “ASP.NET”.
5. Click on “Internet Information Services”, then click on the “Details” button. See Figure 53.

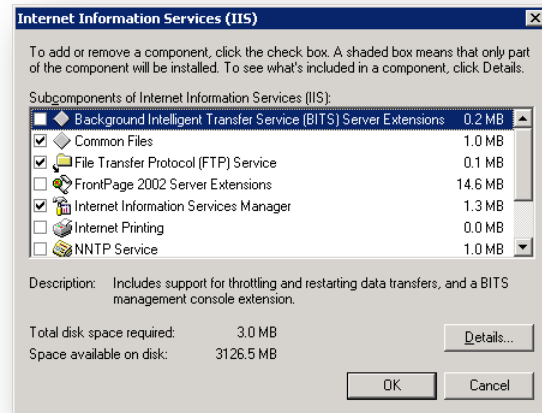


Figure 41 – Internet Information Services (IIS)

6. Click the “OK” button in the “Application Server” window from Figure 52.
7. Click “Next” in the “Windows Components Wizard” window from Figure 51 to install IIS.

NOTE: The Windows installation CD may be required.

8. If the Internet Information Services is successful, click “Finish” and proceed to the “.NET 4.0 Framework Installation” section.

Section

5

.Net 4.0 Installation

1. If you are running Windows XP or Windows Server 2003, navigate to the Control Panel and double-click on “Add/Remove Programs”.

If you are running any other version of Windows, navigate to the Control Panel and double-click on “Programs and Features”.

2. Check through the list of installed programs for “Microsoft .NET Framework 4.0”. If you do not find it listed, proceed to Step 3.

If SQL Server is not installed and you plan to install the SQL Server Express software provided by LMI, proceed to the “SQL Server 2008 Express Installation” section.

If SQL Server is already installed or you plan to install the full version of SQL Server, proceed to the “Model 375 Web Page and Service Installation” section on page 52.

3. If “Microsoft .NET Framework 4.0” is not listed, navigate to the “Microsoft .NET Framework 4.0” folder on the Ludlum installation CD and double-click on the file “dotNetFx40_Full_x86_x64.exe”. If a window shows up that has options for repairing or uninstalling the .NET framework, then click on the CANCEL option: the computer already has the correct .NET software installed.
4. Click on NEXT and FINISH as appropriate to install the .NET package.
5. If SQL Server is not installed and you plan to install the SQL Server Express software provided by LMI, proceed to the “SQL Server 2008 Express Installation” section.

If SQL Server is already installed or you plan to install the full version of SQL Server, proceed to the “Model 375 Web Page and Service Installation” section on page 46.

Section

6

SQL Server Installation

SQL Server 2008 Express R2 editions (x86 and x64) are included on the installation DVD and can be installed by following the steps below.

Windows PowerShell 2.0 is a prerequisite before installing SQL Server 2008 R2 Express. Install PowerShell through Windows Update before attempting to install SQL Server 2008 R2 Express.

1. Navigate to the **SQL Server Express 2008** folder on the DVD and double-click **SQLEXPADV_x86_ENU.EXE** to install the 32-bit version or double-click **SQLEXPADV_x64_ENU.EXE** to install the 64-bit version.
2. If the following window (Figure 54) appears, download and install Microsoft Windows Installer 4.5 . Restart the computer if necessary. If the window does not appear, skip to step 3.

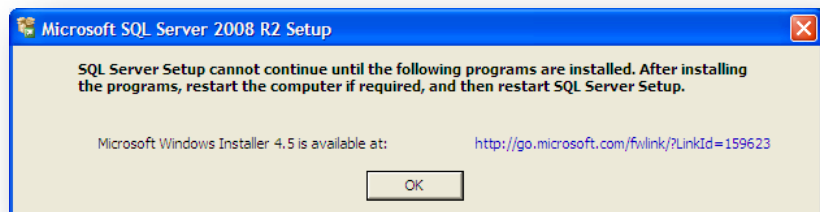


Figure 42 - Microsoft Windows Installer 4.5 Requirement

3. From the SQL Server Installation Center click New installation or add features to an existing installation. See Figure 55.

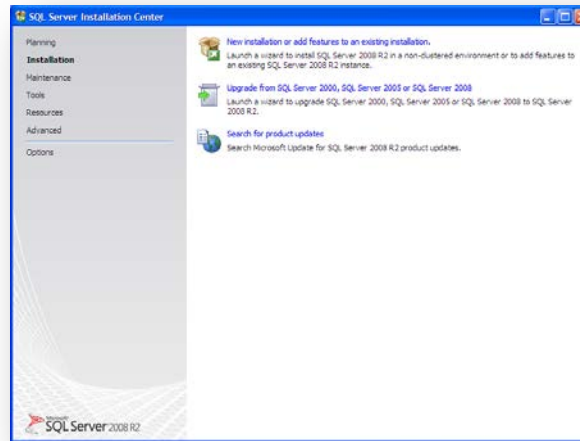


Figure 43 – SQL Server Installation Center

4. Click **New installation or add features to an existing installation**.
5. Accept the License terms and click **Next** to continue.

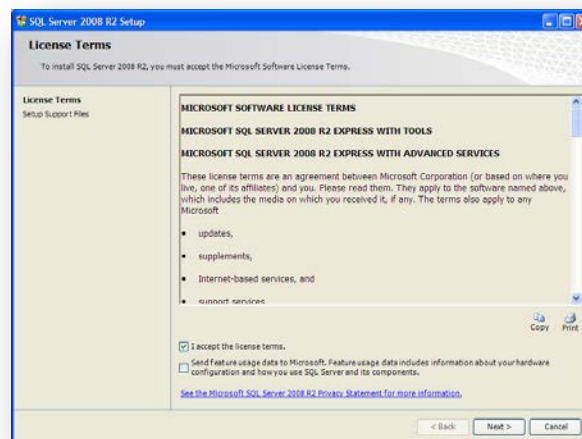


Figure 44 – License Terms

6. From the Feature Selection screen, accept the defaults and click **Next**. See Figure 57.

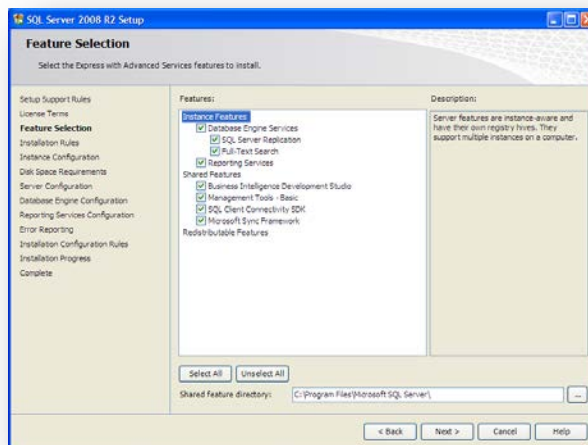


Figure 45 – Feature Selection

7. If there are no other instances of SQL Server, accept the defaults and click **Next**. If there are one or more installed instances, check the name of this instance to an appropriate value. When finished configuring the instance, click **Next**. See Figure 58.

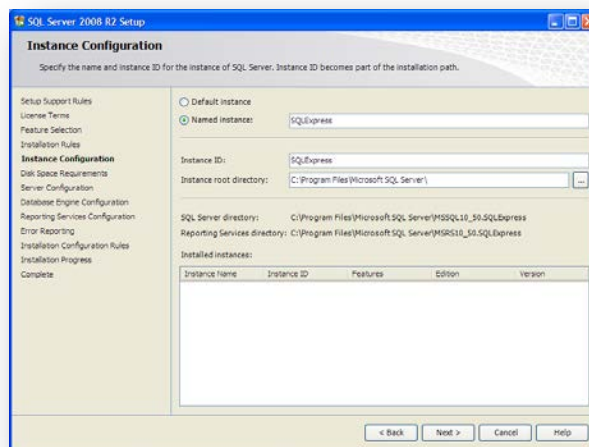


Figure 46 – Instance Configuration

8. Consult your Network Administrator for the correct user accounts to use. If you are unsure, use the NT AUTHORITY/NETWORK SERVICE account. See Figure 59. Click **Next** after configuring the accounts.

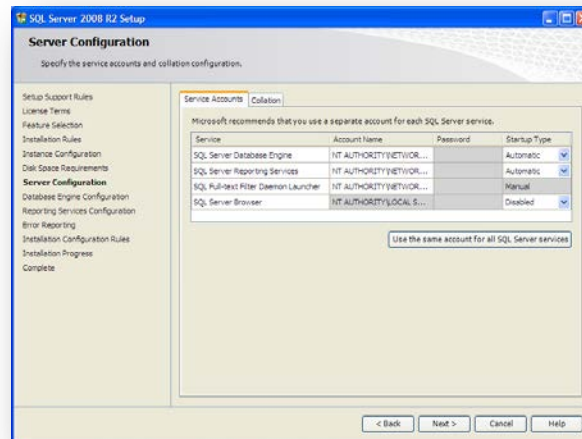


Figure 47 – Service Accounts

9. Change the Authentication Mode to **Mixed Mode (SQL Server Authentication and Windows Authentication)**. Enter a password for the "sa" user. Click **Next**. See Figure 60.

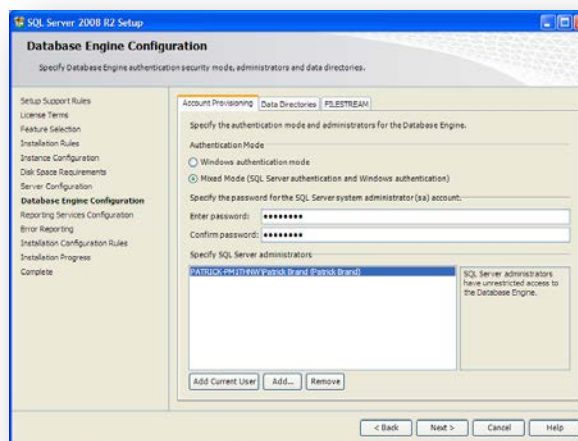


Figure 48 – Account Provisioning

10. Select **Install the native mode default configuration** from the Reporting Services Configuration screen and click **Next**. See Figure 44.

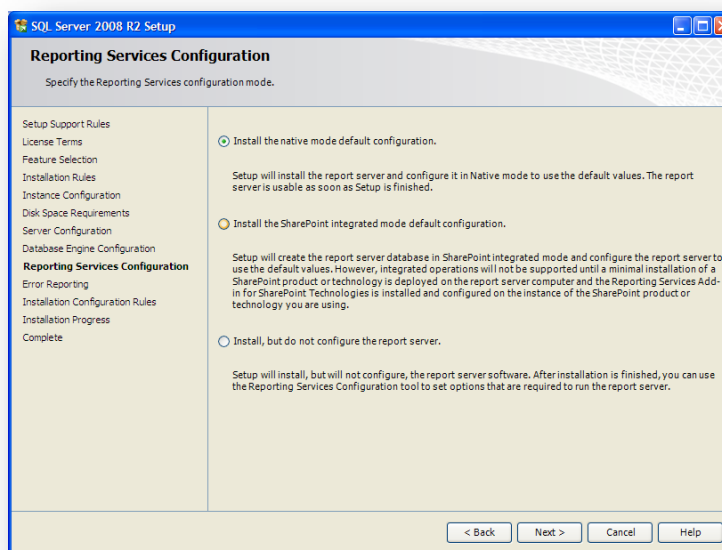


Figure 49 – Reporting Services Configuration

11. Click **Next** on the Error Reporting screen. See Figure 62.

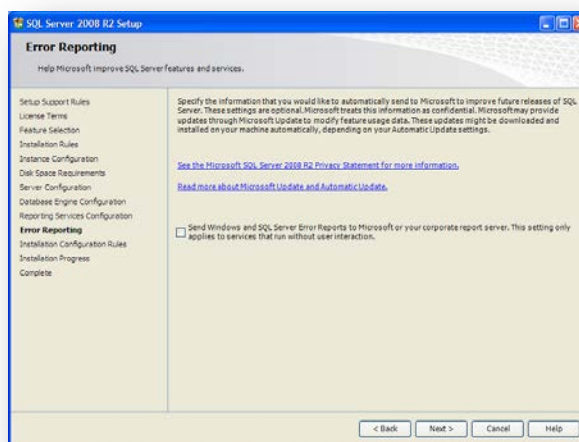


Figure 50 – Error Reporting

12. After the installation is complete, click the Close button and then close the SQL Server Installation Center. See Figure 63.

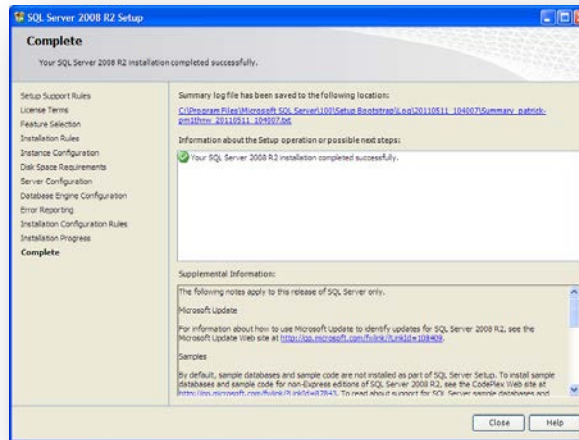


Figure 51 – SQL Server 2008 Completed Installation

Section

7

Web Page and Supervisor Service Installation

Beginning with version 1.5.2, the Web Page and Supervisor Service installer can automatically configure Internet Information Services (IIS), as well as SQL Server 2008 Express and SQL Server 2008 Express. The new automatic configuration options were created to greatly simplify installation of the Model 375 Web Page and Supervisor Service.

The Model 375 Web Page and Service installation CD contains custom installer files for the following operating systems:

-  Windows XP
-  Windows Server 2003
-  Windows Server 2008
-  Windows Vista
-  Windows 7

The Model 375 Web Page and Supervisor Service installer **MUST** be running in either the Windows Administrator user account or a Windows user account with Administrator privileges; else, the installer may not function correctly

Each installer option will be described in detail on the following pages.

1. On the Ludlum Model 375 Web Page and Supervisor Service installation CD, double-click the appropriate setup file. The name of the setup file used **MUST** match the Supervisor computer's Windows operating system.
2. When the Welcome screen appears, click "Next". See Figure 64.



Figure 52 – Model 375 Web Page and Supervisor Service Installation (Welcome)

3. The warning screen simply warns the user to make sure that the installer is running with Administrative privileges. If the installer is running with Administrative privileges, click “Next”. See Figure 65.

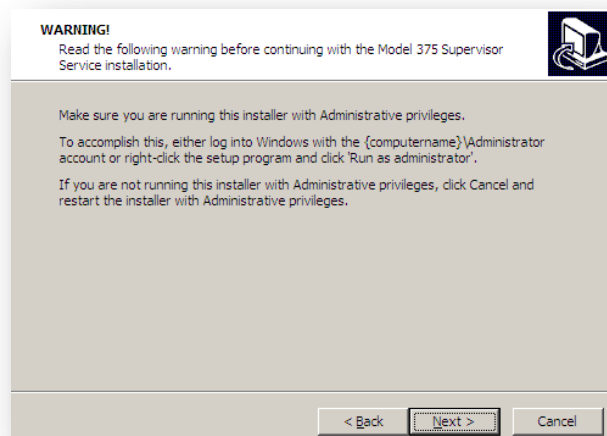


Figure 53 – Model 375 Web Page and Supervisor Service Installation (Warning)

4. Click “Next” to accept the license agreement. See Figure 66.

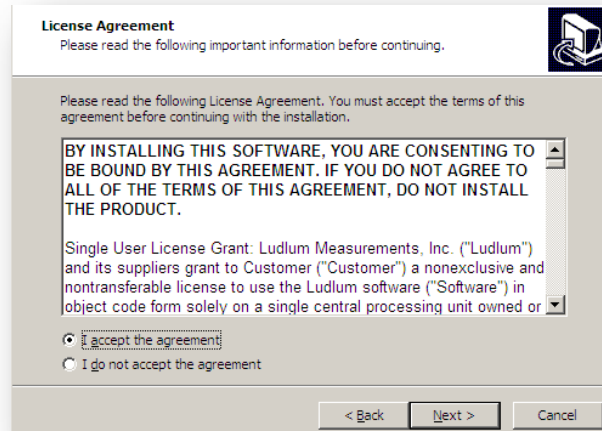


Figure 54 – Model 375 Web Page and Supervisor Service Installation (License Agreement)

5. The next screen asks the user to select the components that will be installed on the Supervisor computer. The following is a list of components to install, as well as a short description for each component:

Supervisor Service – The Windows service that runs in the background on the Supervisor computer. The Supervisor service is responsible for collecting Model 375 data and storing that data in a database on the Supervisor computer.

Service Utility – The software used to configure the Supervisor service. The Service Utility is discussed in further detail, starting on Page 94.

ASP Web Application – The software used to run the Model 375 web page. The Model 375 web page is discussed in further detail, starting on Page 102.

Device Finder – The software used to search for any Model 375 instruments connected to the local network subnet.

Area Monitor Utility – The software used to detect and configure any Model 375 instruments that are connected to the local network subnet. The Area Monitor Utility is discussed in further detail, starting on Page 91.

By default, all five options are selected. Uncheck any components that are not desired and click “Next”. See Figure 67.

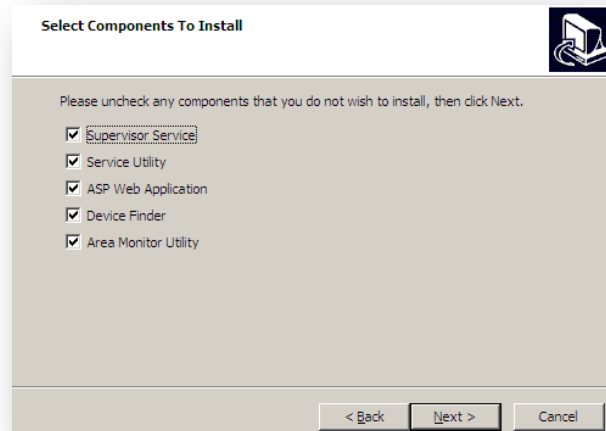


Figure 55 – Model 375 Web Page and Supervisor Service Installation (Select Components to Install)

6. The database configuration option screen allows the user to select which version of SQL Server Express to configure.

If you installed SQL Server 2008 Express using the instructions from the “SQL Server 2008 Express Installation” section, select the “Configure SQL Server 2008” option.

If SQL Server was already installed prior to reading this manual, select the “Don’t Configure SQL Server” option.

Select the appropriate database configuration option and click “Next”. See Figure 68.

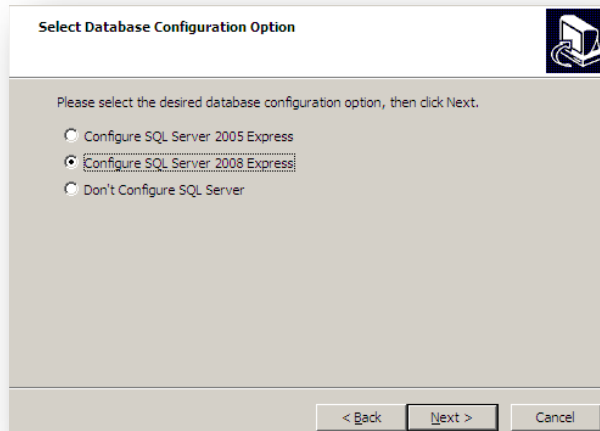


Figure 56 – Model 375 Web Page and Supervisor Service Installation (Database Configuration Option)

7. The Internet Information Services (IIS) configuration screen allows the user to select whether or not the installer automatically configures IIS in order to allow the Model 375 Webpage to work properly.

By default, IIS is configured automatically by the installer. If it is desired to configure IIS manually, uncheck the IIS Configuration option and click “Next”. See Figure 69.

Manual IIS configuration instructions can be found in the “Configuring IIS Manually” section.

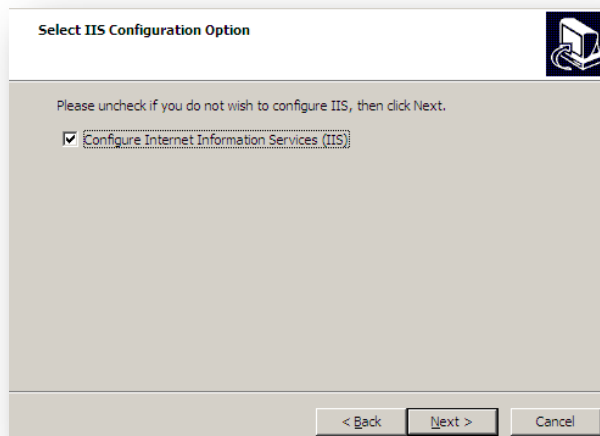


Figure 57 – Model 375 Web Page and Supervisor Service Installation (IIS Configuration Option)

8. The “Select Destination Location” screen allows the user to select the directory where the Model 375 Supervisor Service will be installed. The default directory is C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service.

If this is not the desired installation directory, use the Browse button to select a different directory. Once the destination directory is selected, click “Next”. See Figure 70.

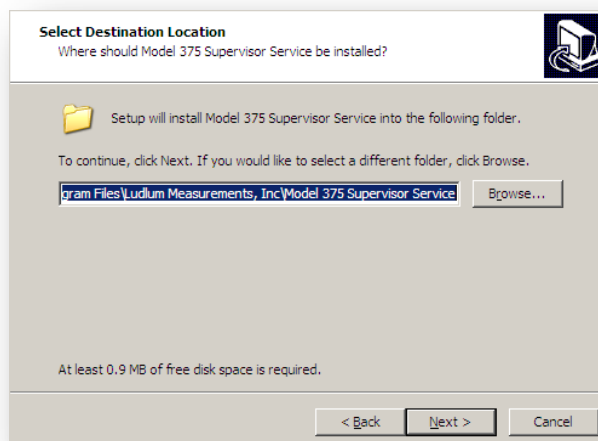


Figure 58 – Model 375 Web Page and Supervisor Service Installation (Destination Location)

9. Confirm that the selected setup information is correct and click “Install”. See Figure 71.

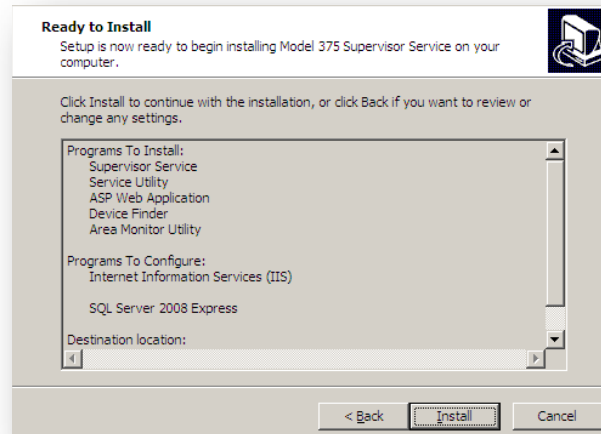


Figure 59 – Model 375 Web Page and Supervisor Service Installation (Ready to Install)

10. Once installation is complete, uncheck the “Start Supervisor Service” option if you do not wish to start the Supervisor service. Click “Finish”. See Figure 72.



Figure 60 – Model 375 Web Page and Supervisor Service Installation (Finished Installation)

11. For the Save to CSV feature to work, the security permissions for the installation folder need to have the following user added with write permissions:
Windows 7/Server 2008: IIS_IUSRS
Windows XP/Server 2003: ASPNET

12. If the installer was used to automatically configure both SQL Server Express and Internet Information Services (IIS), proceed to the “Testing the Web Server” section on page 87.

If configuration for SQL Server is to be done manually, proceed below for manual configuration instructions.

If configuration for IIS is to be done manually, proceed to the appropriate section from the following list:

- Configuring IIS in Windows XP – page 66
- Configuring IIS in Windows Vista – page 70
- Configuring IIS in Windows 7 – page 73
- Configuring IIS in Windows Server 2008 – page 77
- Configuring IIS in Windows Server 2003 – page 81

Configuring SQL Server Manually (optional)

If you selected the “Configure SQL Server 2008 Express” option in the Model 375 Web Page and Supervisor Service installer, skip this section.

If you are configuring SQL Server manually, go through the following steps.

1. Open SQL Server Management Studio. To do this, click on the “Start” menu, point the cursor to “All Programs”, point the cursor to “Microsoft SQL Server 2008”, and click on “SQL Server Management Studio”.

NOTE: If the Express version of SQL Server 2008 is installed, the program will be named “SQL Server Management Studio Express”.

2. Click on the “Authentication” combo box and change the Authentication Mode to “SQL Server Authentication”.
3. Enter “sa” (lower-case, without the quotation marks) into the “Login” combo box.
4. Enter the password for the System Administrator (“sa”) account into the “Password” combo box. See Figure 73.

NOTE: If you installed SQL Server 2008 Express from the Ludlum installation CD, make sure to enter the password that was set in Step 7 of the “SQL Server 2008 Express Installation” section.

If you did not install SQL Server 2008 Express and you do not know the “sa” account password, contact your database administrator.

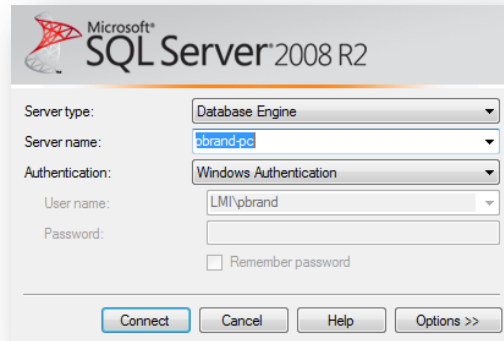


Figure 61 – SQL Server Management Studio Login Window

5. Click “OK”. The SQL Server Management Studio window should resemble Figure 74.

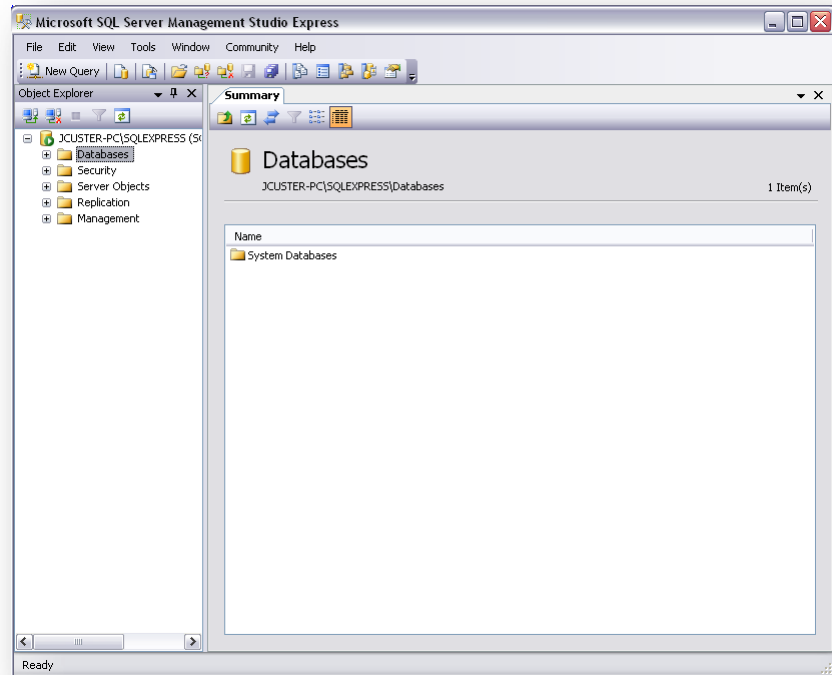


Figure 62 – SQL Server Management Studio

6. Right-click on “Databases” in the left panel and click on “New Database”.
7. Type “lmi_area_monitor” (lower-case, without the quotation marks) into the “Database name” text box. See Figure 75.

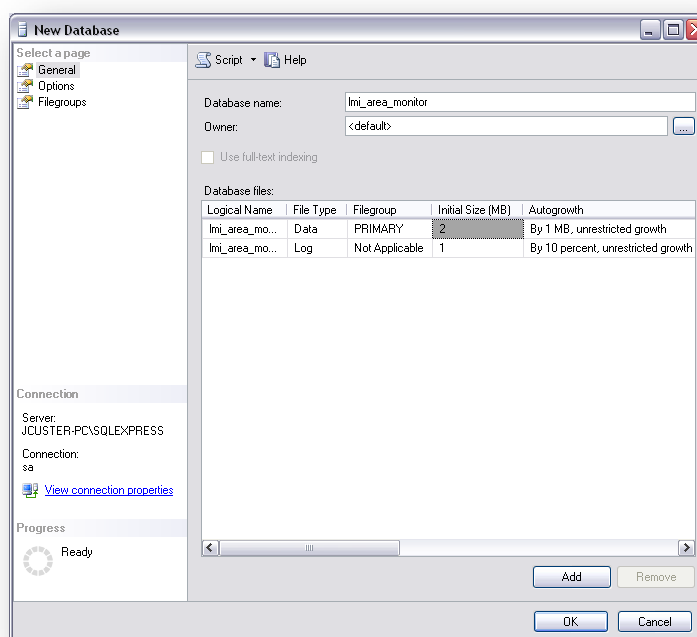


Figure 63 – Create New Database

8. Click “OK”.
9. In the SQL Server Management Studio window, click on the plus icon next to the “Databases” folder in the left pane. The SQL Server Management Studio window should now resemble Figure 76.

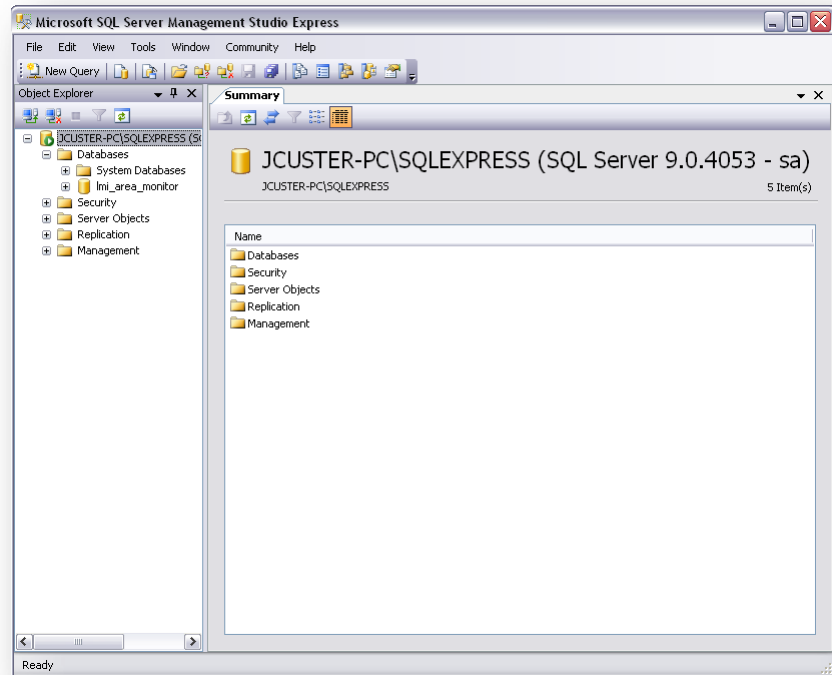


Figure 64 – SQL Server Management Studio Express showing new database

10. Right-click on the “Security” folder in the left pane. Point the cursor to “New”, then click on “Login”.
11. Enter “ludlum” (lower-case, without the quotation marks) into the “Login name” text box.
12. Click on the radio button next to “SQL Server authentication”.
13. Uncheck the “Enforce Password Policy” option.
14. Enter “areamonitor” (lower-case, without the quotation marks) into both the “Password” and “Confirm Password” text boxes.

NOTE: The login name and password in the above steps are the default values that the Supervisor service uses to log into the database. These values may be changed, if desired; however, the login name and password **MUST** match the user name and password stored in the Supervisor Server Utility; else, the Supervisor service will not function properly. The Supervisor Server Utility is discussed in detail, starting on page 91.

15. Click on the “Default database” combo box and change the default database to “lmi_area_monitor”.
16. Verify that the New Login window resembles Figure 77 before continuing.
17. Click on “User Mapping” in the left pane of the New Login window.
18. Check “lmi_area_monitor” in the “Users mapped to this login” pane.
19. Check “db_owner” in the “Database role membership” pane. Leave the “public” database role membership checked.
20. Verify that the New Login window resembles Figure 78, then click “OK”.
21. In the SQL Server Management Studio window, click on the plus sign next to the “Security”, then click on the plus sign next to the “Logins” window. Your screen should now resemble Figure 79.
22. Close the SQL Server Management Studio window.

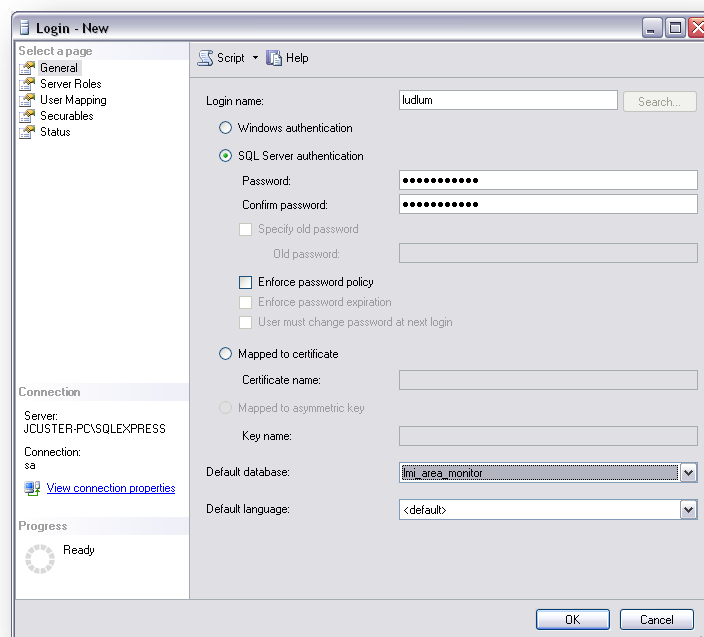


Figure 65 – New Login

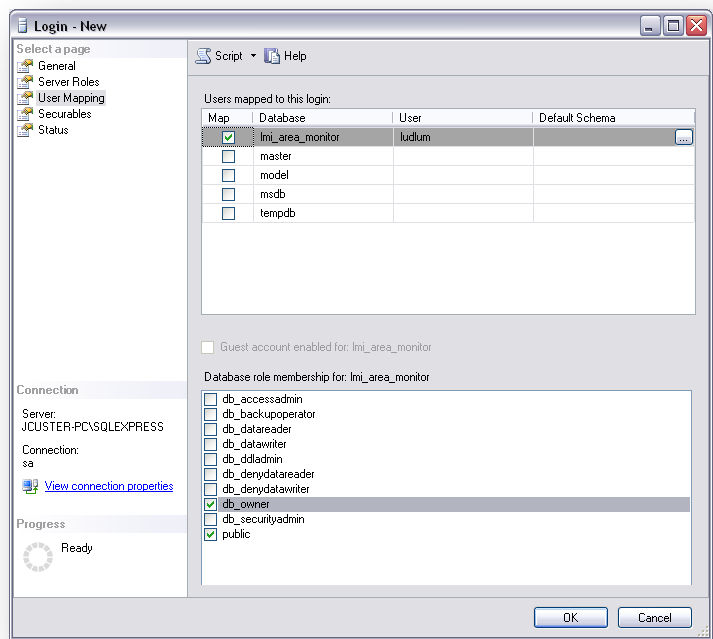


Figure 66 – User Mapping

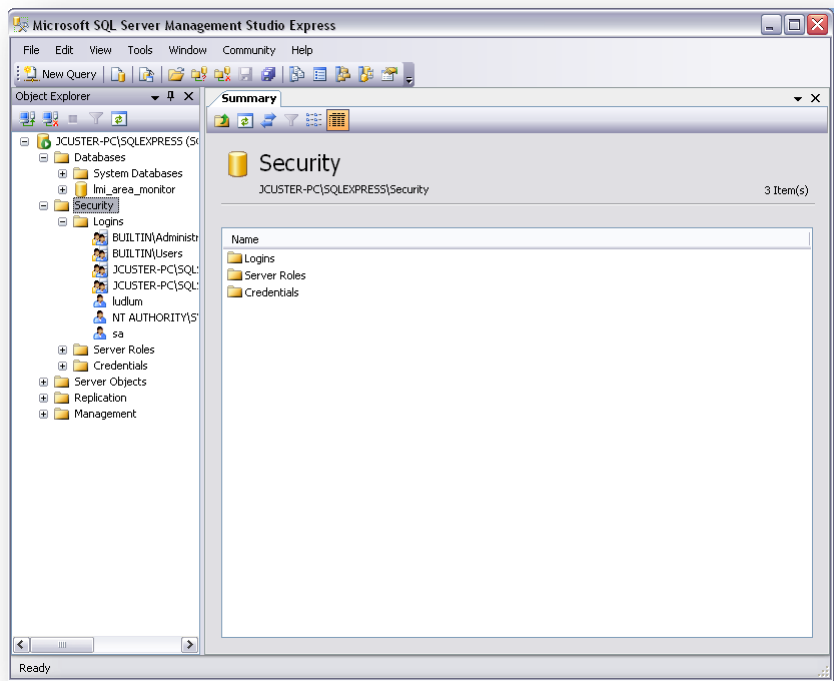


Figure 67 – SQL Server Management Studio showing new login

Configuring Internet Information Services Manually (optional)

If you selected the “Configure Internet Information Services” option in the Model 375 Web Page and Supervisor Service installer, skip this section.

If you are configuring Internet Information Services manually, proceed to the appropriate instructions for your computer’s operating system.

Configuring IIS in Windows XP

1. Click on the Start Menu, then click on “Control Panel”.
2. If your Control Panel is configured for Classic View, double-click on “Administrative Tools”. If your Control Panel is configured for Category View, click on “Performance and Maintenance”, then click on “Administrative Tools”.
3. Double-click on “Internet Information Services”.

NOTE: If the Internet Information Services shortcut does not exist, refer to the “IIS Server Installation – Windows XP” section on page 27 to install Internet Information Services.

4. Click on the plus symbol next to your computer name, then click on the plus symbol next to the “Web Sites” folder. See Figure 80.

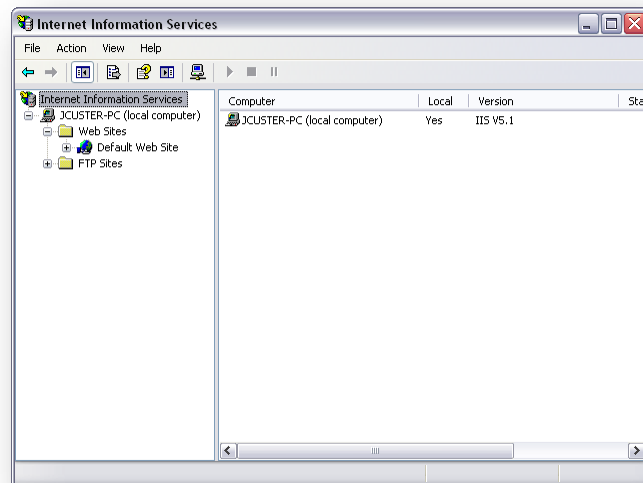


Figure 68 – Internet Information Services

5. Right-click on “Default Web Site”, point your cursor at “New”, and click “Virtual Directory”. The Virtual Directory Creation Wizard will appear. See Figure 81.



Figure 69 – Virtual Directory Creating Wizard

6. Click “Next” to continue.
7. Enter “AreaMonitor” (without the quotation marks) into the “Alias” text box and click “Next”. See Figure 82.

NOTE: The alias for the virtual directory determines the URL used to access the web interface. The URL will be http://computername/virtual_directory_name.

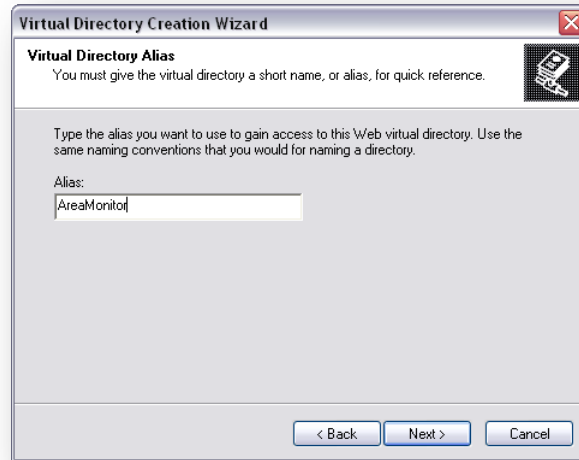


Figure 70 – Virtual Directory Creation Wizard (Virtual Directory Alias)

8. Click the “Browse” button and browse to the directory where the Model 375 Supervisor Service is installed. By default, the installation directory is “C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service”.
9. Click “Next”. See Figure 83.

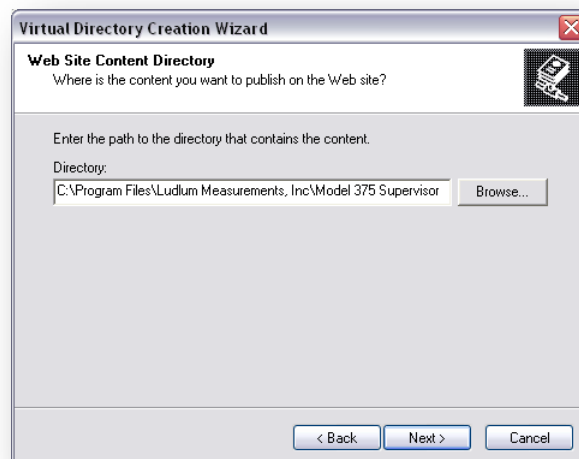


Figure 71 – Virtual Directory Creation Wizard (Web Site Content Directory)

10. Click “Next” to accept the default access permissions. See Figure 84.



Figure 72 – Virtual Directory Creation Wizard (Access Permissions)

11. Click “Finish”. See Figure 85.

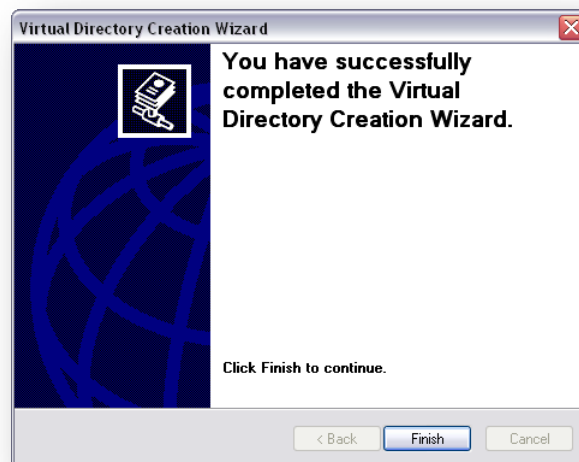


Figure 73 – Virtual Directory Creation Wizard (Completed)

12. In the Internet Information Services window, click on the plus sign next to “Default Web Site”.
13. Right-click on the new “AreaMonitor” virtual directory, then click “Properties”.
14. Click on the “Documents” tab, then click the “Add” button.

15. Enter “CurrentStatus.aspx” (without the quotation marks) and click “OK”.
16. In the Properties window, click on “CurrentStatus.aspx”, then click the Up Arrow button until CurrentStatus.aspx is at the top of the default documents list.
17. Verify that the Properties window resembles Figure 86, then click “Apply” to accept the changes.

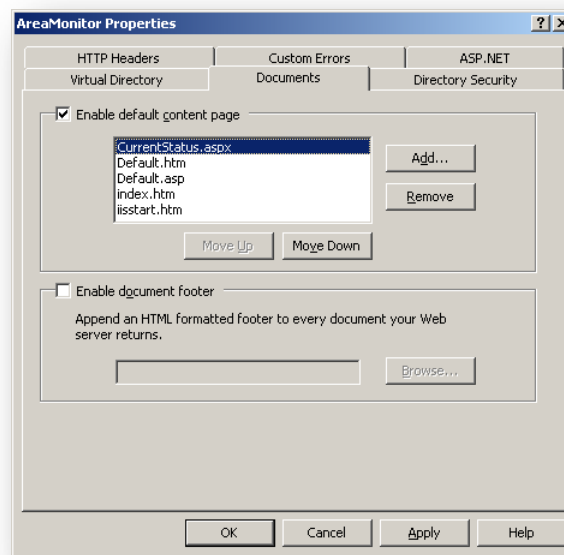


Figure 74 – AreaMonitor Properties (Documents)

18. Click on the “ASP.NET” tab and make sure that the ASP.NET version is 4.0.30319. If it is not, click on the “ASP.NET” combo box and select the “4.0.30319.” option.
19. Close the Internet Information Services window.

Configuring IIS in Windows Vista

1. Click on the Start Menu, then click on “Control Panel”.
2. In the Control Panel, click on “Classic View”.
3. Double-click on “Administrative Tools”, then double-click on “Internet Information Services (IIS) Manager”.

NOTE: If Internet Information Services (IIS) Manager does not exist in Administrative Tools, refer to the “IIS Server Installation – Windows Vista” section on page 29 to install Internet Information Services.

4. In the left pane of the IIS Manager window, click on the right arrow next to your computer name, then click on the right arrow next to the “Web Sites” folder. Your screen should resemble Figure 87.

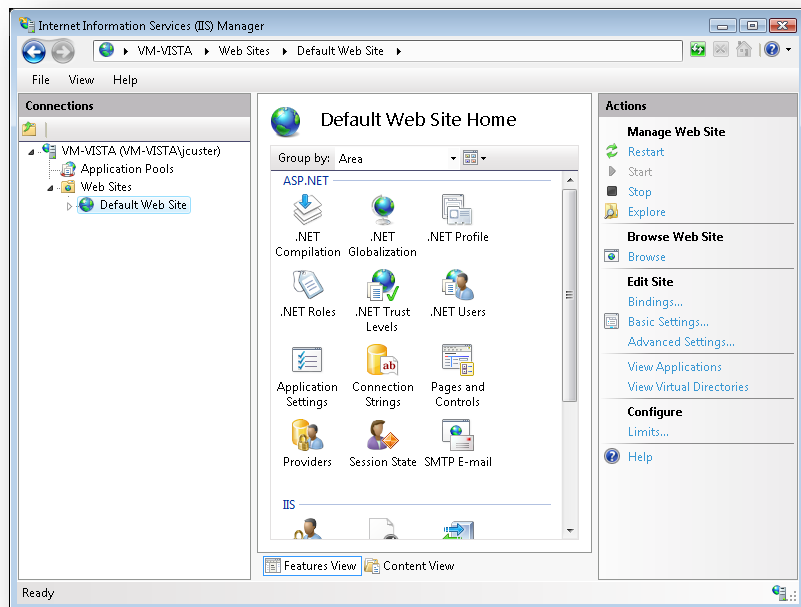


Figure 75 – Internet Information Services (IIS) Manager

5. Right-click on “Default Web Site” and click “Add Application”.
6. In the “Alias” text box, enter in “AreaMonitor” (without the quotation marks).
7. Click the “Select” button to the right of the “Application pool” text box.
8. Click on the “Application pool” drop-down box and select “ASP.NET v4.0 Classic”, then click “OK”.
9. Click on the button next to the “Physical path” text box and browse to the directory where the Model 375 Supervisor Service is installed. By default, the installation directory is “C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service”.
10. Click “OK”. See Figure 88.

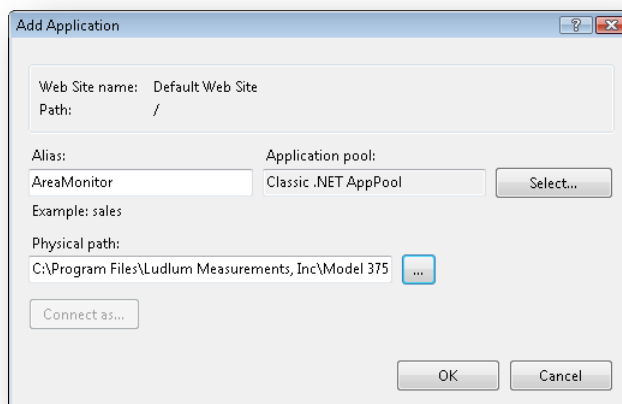


Figure 76 – Add Application

11. In the left pane of the IIS Manager window, click the right arrow next to “Default Web Site”. You should see the AreaMonitor application under the default web site. See Figure 89.

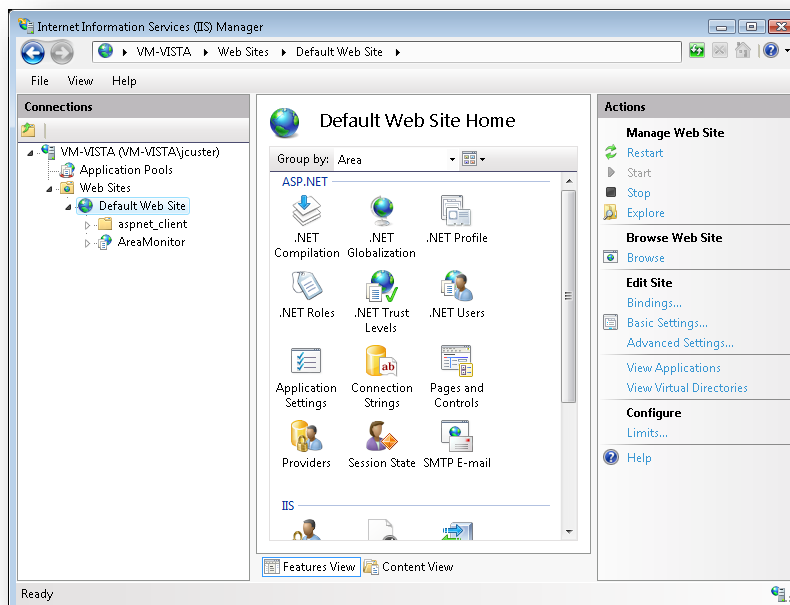


Figure 77 – Internet Information Services (IIS) Manager showing AreaMonitor application

12. Click on “AreaMonitor” in the left pane of the IIS Manager window, then double-click on “Default Document” in the middle pane.

13. Click on the “File name(s)” text box. Make sure the cursor is positioned at the beginning of the default document text.
14. Once the cursor is positioned, enter in “CurrentStatus.aspx” (without the quotation marks), followed by a comma.
15. In the right pane of the IIS Manager window, click “Apply” to accept the change. Your screen should resemble Figure 90.
16. Close the IIS Manager window.

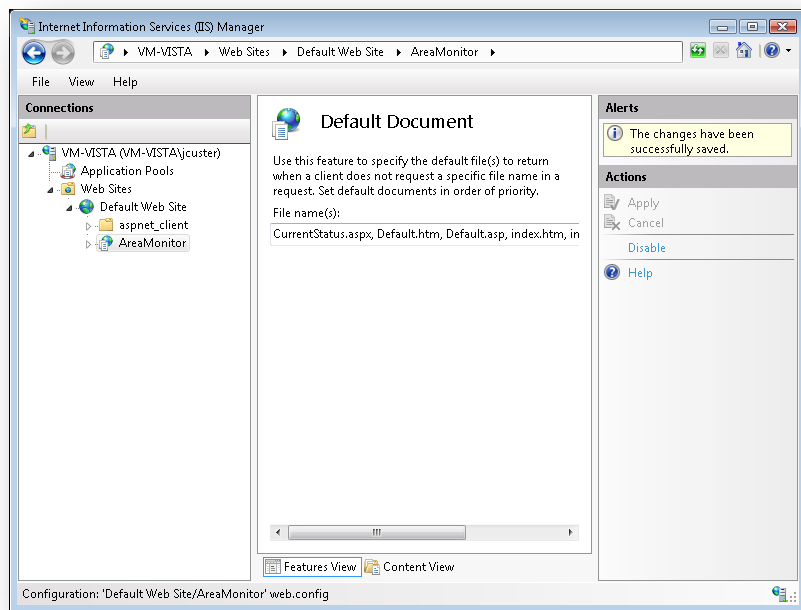


Figure 78 – Default Document for AreaMonitor application

Configuring IIS in Windows 7

1. Click on the Start Menu, then click on “Control Panel”.
2. If the Control Panel resembles Figure 91, the Control Panel is set to Category view. If the Control Panel is set to Category view, click on “System and Security”, then click on “Administrative Tools”.

If the Control Panel is not set to Category view, click on “Administrative Tools”.

See Figure 92 for a screen shot of the Administrative Tools window.

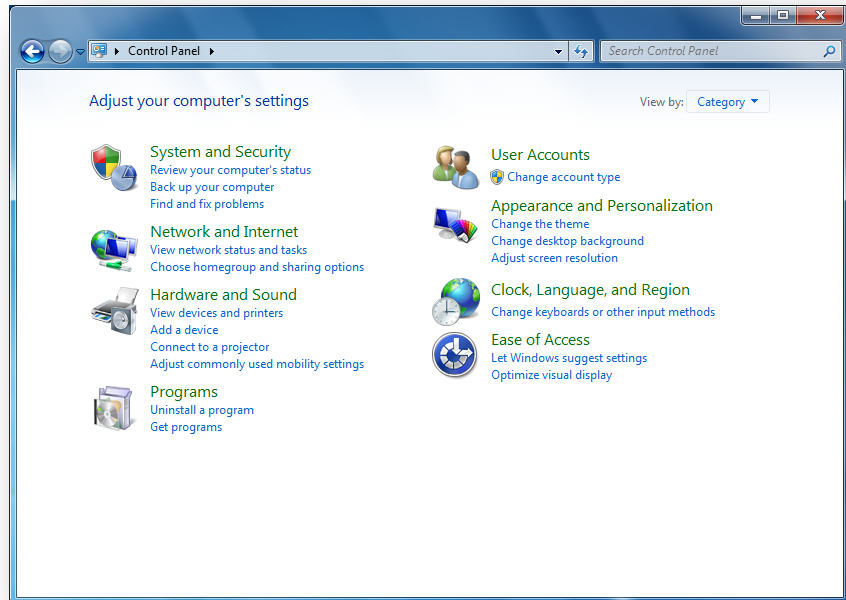


Figure 79 – Control Panel

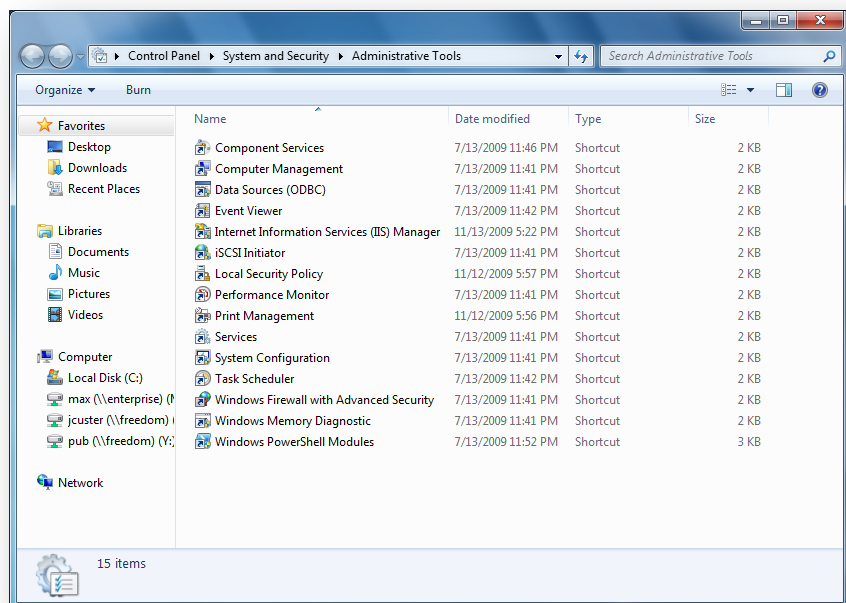


Figure 80 – Administrative Tools

3. Double-click on "Internet Information Services (IIS) Manager" to open the IIS Manager window.

NOTE: If Internet Information Services (IIS) Manager does not exist in Administrative Tools, refer to the “IIS Server Installation – Windows 7” section on page 32 to install Internet Information Services.

4. Click on the right arrow next to “Sites” in the left pane of the IIS Manager window.
5. Click on the right arrow next to “Default Web Site” in the left pane of the IIS Manager window. See Figure 93.

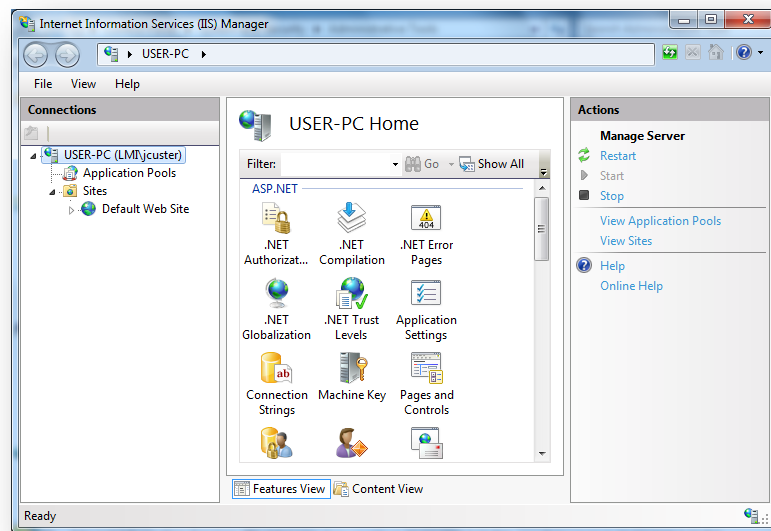


Figure 81 – Internet Information Services (IIS) Manager

6. Right-click on “Default Web Site” and click on “Add Application”.
7. In the “Alias” text box, enter in “AreaMonitor” (without the quotation marks).
8. Click the “Select” button to the right of the “Application pool” text box.
9. Click on the “Application pool” drop-down box and select “ASP.NET v4.0 Classic”, then click “OK”.
10. Click on the button next to the “Physical path” text box and browse to the directory where the Model 375 Supervisor Service is installed. By default, the installation directory is “C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service”.
11. Click “OK”. See Figure 94.

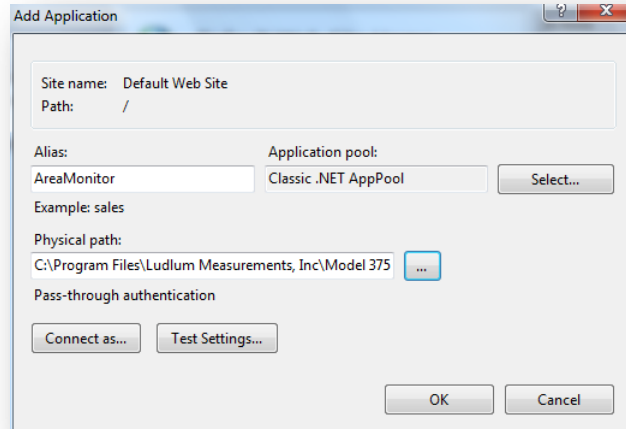


Figure 82 – Add Application

- Click the right arrow next to “Default Web Site” in the left pane of the IIS Manager window. You should now see the AreaMonitor application under the default web site. See Figure 95.

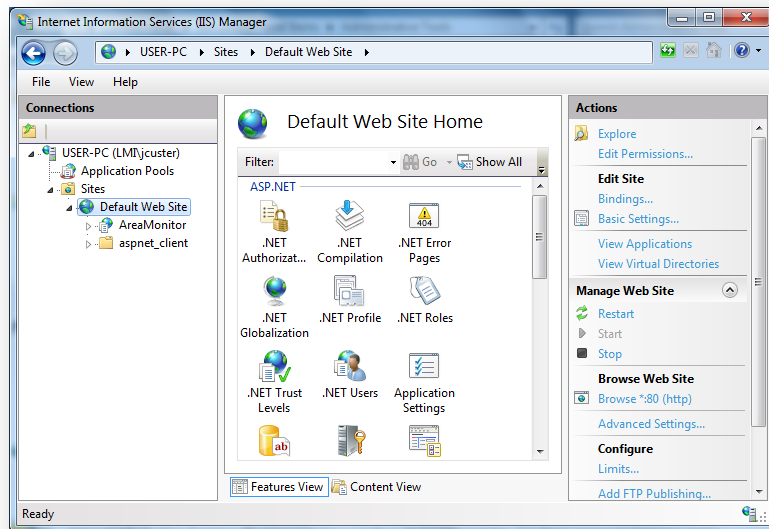


Figure 83 – Internet Information Services (IIS) Manager showing AreaMonitor application

- Click on “AreaMonitor” in the left pane of the IIS Manager window, then double-click on “Default Document” in the middle pane.

14. Click on “Add” in the right pane of the IIS Manager window to add a new default document.
15. Enter in “CurrentStatus.aspx” (without the quotation marks) and click “OK”. See Figure 96.

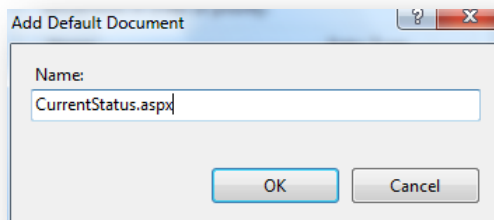


Figure 84 – Add Default Document

16. Verify that the IIS Manager window resembles Figure 97, then close the IIS Manager window.

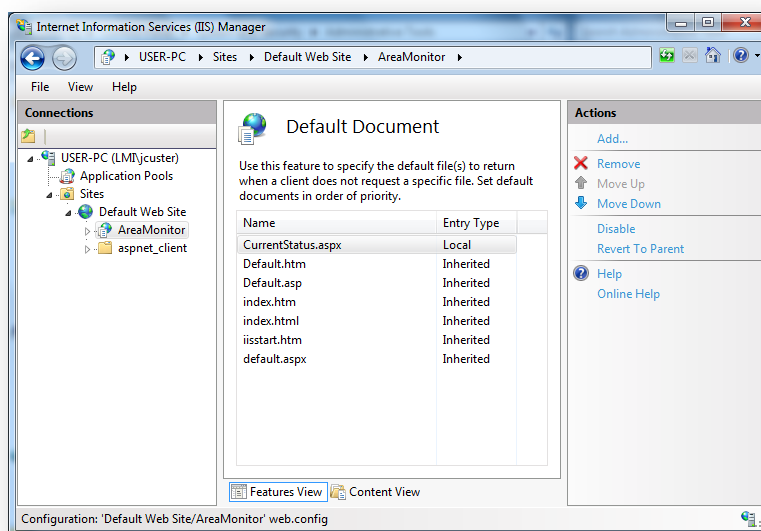


Figure 85 – Default Document for AreaMonitor application

Configuring IIS in Windows Server 2008

1. Click on the Start Menu, point the cursor at “Administrative Tools”, and click on “Internet Information Services (IIS) Manager”.

NOTE: If Internet Information Services (IIS) Manager does not exist in Administrative Tools, refer to the “IIS Server Installation – Windows Server 2008” section on page 36 to install Internet Information Services.

NOTE: It may be necessary to the ISAPI + CGI restrictions to allow the ASP.NET v4.0.30319 Framework.

2. In the IIS Manager window, click on the plus symbol next to the “Sites” folder, then click on the plus symbol next to “Default Web Site”. The IIS Manager window should now resemble Figure 98.

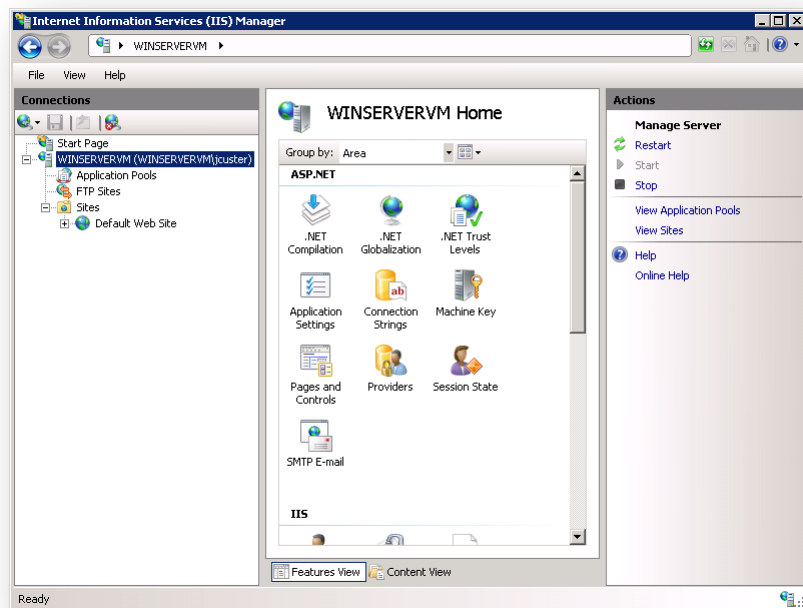


Figure 86 – Internet Information Services (IIS) Manager

Right-click on “Default Web Site” and click on “Add Application”.

3. Enter “AreaMonitor” (without the quotation marks) into the “Alias” text box.
4. Click the “Select” button to the right of the “Application pool” text box.
5. Click the “Application pool” drop-down box, select “ASP.NET v4.0 Classic Application Pool”, and click “OK”.
6. Click on the button next to the “Physical path” text box and browse to the directory where the Model 375 Supervisor Service is installed. By

default, the installation directory is “C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service”.

7. Click “OK”. See Figure 99.

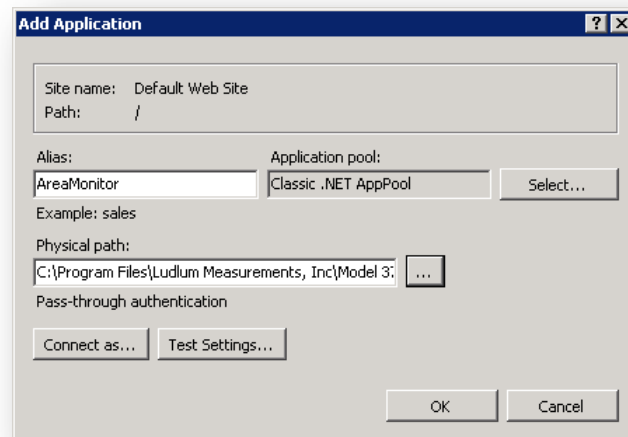


Figure 87 – Add Application

8. Click the right arrow next to “Default Web Site” in the left pane of the IIS Manager window. You should now see the AreaMonitor application under the default web site. See Figure 100.

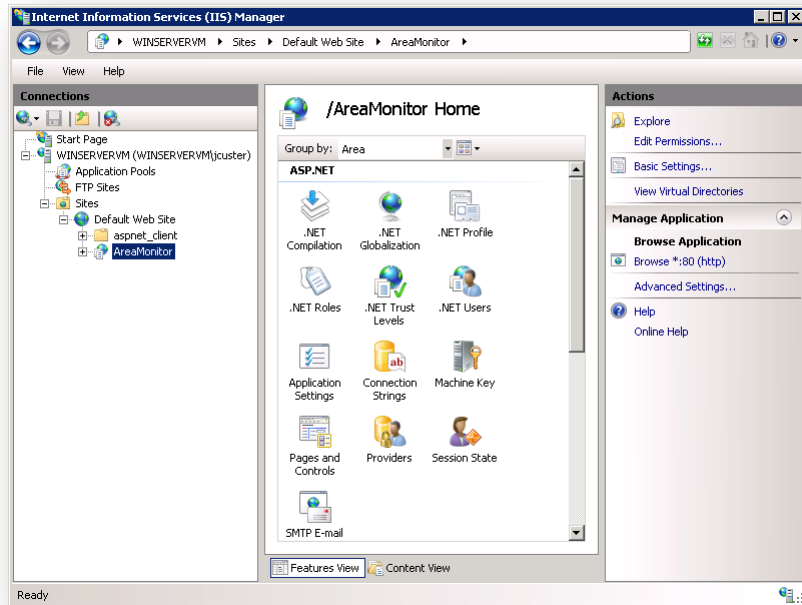


Figure 88 – Internet Information Services (IIS) Manager showing AreaMonitor application

9. Click on “AreaMonitor” in the left pane of the IIS Manager window.
10. Double-click on “Default Document” in the middle pane of the IIS Manager window.
11. Click on “Add” in the right pane of the IIS Manager window to add a new default document to the AreaMonitor application.
12. In the “Add Default Document” dialog, enter in “CurrentStatus.aspx” (without the quotation marks) in the “Name” text box, then click “OK”. See Figure 101.

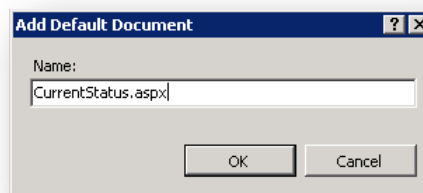


Figure 89 – Add Default Document

13. Verify that the IIS Manager window resembles Figure 102, then close the IIS Manager window.

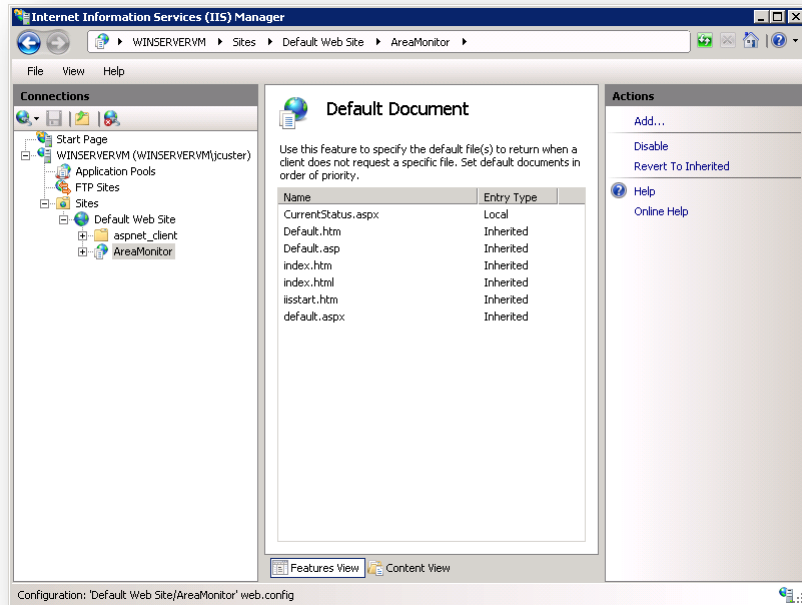


Figure 90 – Default Document for AreaMonitor application

Configuring IIS in Windows Server 2003

1. Click on the Start Menu, point the cursor at “Administrative Tools”, and click on “Internet Information Services (IIS) Manager”.

NOTE: If Internet Information Services (IIS) Manager does not exist in Administrative Tools, refer to the “IIS Server Installation – Windows Server 2003” section on page 42 to install Internet Information Services.

2. In the IIS Manager window, click on the plus symbol next to the computer name, then click on the plus symbol next to the “Web Sites” folder. The IIS Manager window should now resemble Figure 103.

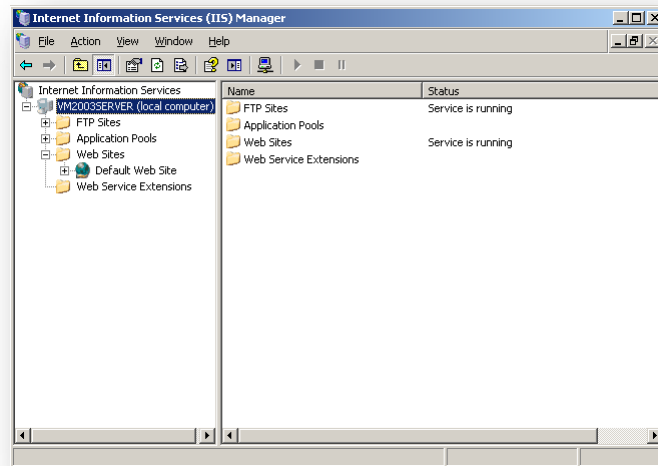


Figure 91 – Internet Information Services (IIS) Manager

3. Right-click on “AreaMonitor” in the left pane of the IIS Manager window.
4. Right-click on “Default Web Site”, point your cursor at “New”, and click “Virtual Directory”. The Virtual Directory Creation Wizard will appear. See Figure 104.



Figure 92 – Virtual Directory Creation Wizard

5. Click “Next” to continue.

6. Enter “AreaMonitor” (without the quotation marks) into the “Alias” textbox. See Figure 105.

NOTE: The alias for the virtual directory determines the URL used to access the web interface. The URL will be http://computername/virtual_directory_name.

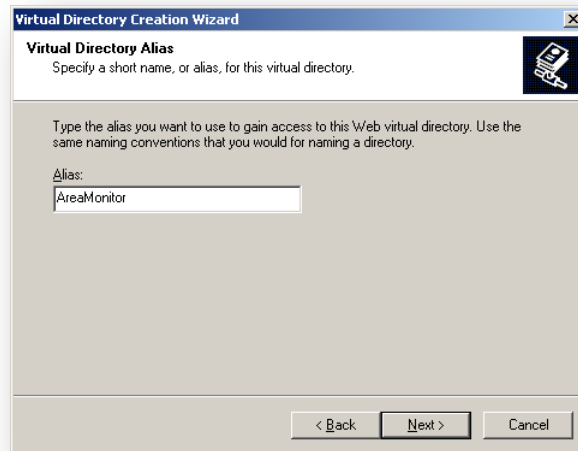


Figure 93 – Virtual Directory Alias

7. Click the “Browse” button and browse to the directory where the Model 375 Supervisor Service is installed. By default, the installation directory is “C:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service”.
8. Click “Next”. See Figure 106.

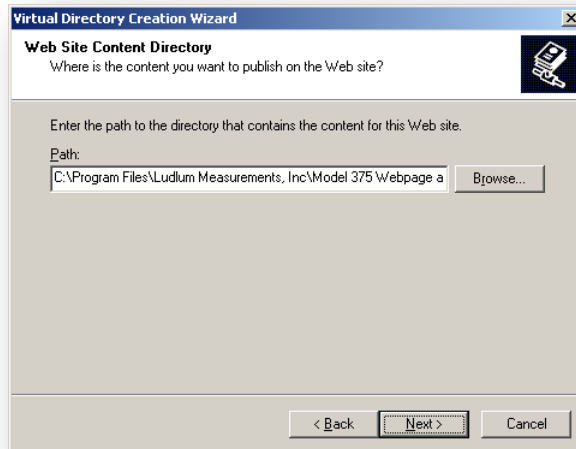


Figure 94 – Web Site Content Directory

9. Check the “Run scripts (such as ASP)” option, then click “Next”. See Figure 107.

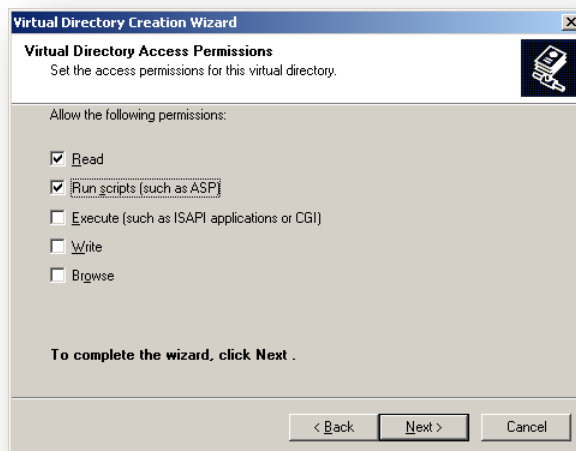


Figure 95 – Virtual Directory Access Permissions

10. Click “Finish”. See Figure 108.



Figure 96 – Finished Virtual Directory Creation Wizard

11. In the Internet Information Services window, click on the plus sign next to “Default Web Site”.
12. Right-click on the new “AreaMonitor” virtual directory, then click “Properties”.
13. Click on the “Documents” tab, then click the “Add” button.
14. Enter “CurrentStatus.aspx” (without the quotation marks) and click “OK”.
15. In the Properties window, click on “CurrentStatus.aspx”, then click the Up Arrow button until CurrentStatus.aspx is at the top of the default documents list.
16. Verify that the Properties window resembles Figure 109, then click “Apply” to accept the changes.
17. Click on the “ASP.NET” tab and make sure that the ASP.NET version is 4.0.30319. If it is not, click on the “ASP.NET” combo box and select the “4.0.30319” option.
18. Click “OK”.

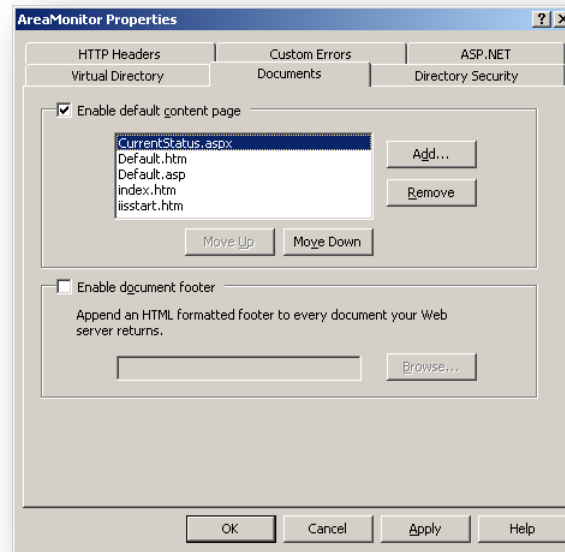


Figure 97 – AreaMonitor Properties (Documents)

19. In the left pane of the IIS Manager window, click on the “Web Service Extensions” folder. See Figure 110.

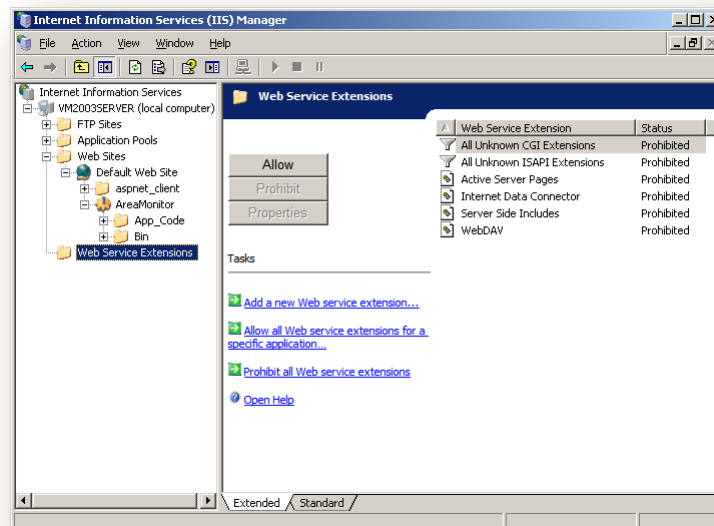


Figure 98 – Internet Information Services (IIS) Manager (Web Service Extensions)

20. In the list of web server extensions, click on “Active Server Pages”, then click on the “Allow” button.
21. If ASP.NET v4.0.30319 does not exist in the list, under the “Tasks” heading, click on “Add a new Web service extension”.
22. Enter “ASP.NET 4.0.30319” in the “Extension name” text box.
23. Click on the “Add” button.
24. Click on the “Browse” button and browse to the following file:

C:\WINDOWS\Microsoft.NET\Framework\v4.0.30319\aspnet_isapi.dll
25. Click “OK”.
26. In the “New Web Service Extension” window, check the “Set extension status to Allowed” option.
27. Verify that the New Web Service Extension window resembles , then click “OK”.
28. Close the IIS Manager window.

Testing the Web Server

Before any Model 375 Area Monitors are configured and connected to the Supervisor service, ensure that the previous installations completed without error. To do this, make sure that no Area monitors are connected to the network and go through the following steps.

1. Double-click on the “Model 375 Webpage” icon on your desktop. Within 60 seconds or so, the Current Status page should open without error. If it doesn’t, double-check the installation and configuration instructions in Section 2 before proceeding.
2. If the Current Status page opened successfully, click on the “Timeline Data” link to ensure that the Timeline Data page opens successfully.
3. If the Timeline Data page opens successfully, click on the “Incident Summary” link to ensure that the Incident Summary page opens successfully.

Section

8

Configuration of Area Monitors and Cameras

Configuring the Model 375 Area Monitor

In order for the Model 375 Supervisor Service to function correctly, several steps must be taken to properly configure each Model 375 area monitor. Since the area monitors are by default designed to use a static IP address, it is **STRONGLY** recommended that the user connect each Model 375 area monitor, one at a time, to a laptop or PC with a crossover cable before attempting to configure the area monitor.

NOTE: If all area monitors are connected to the network at first, it may be impossible to configure them because they may all have the same IP address.

NOTE: The Model 375 Area Monitor **CANNOT** be configured using the serial port.

Before connecting to your laptop or PC, go through the following steps to configure your PC:

1. Open “My Network Places” from the Start Menu.
2. Click on “View network connections” under “Network Tasks”.
3. Right-click on the appropriate connection and click “Properties”.
4. Click on “Internet Protocol (TCP/IP)”, click on the “Properties” button.
5. Select “Use the following IP address”, input the following network settings, and click the “OK” button.

IP address: 10.10.6.101

Subnet mask: 255.255.255.0

Default gateway: 10.10.6.1

For Model 375 area monitors with firmware version 39801N11 or earlier, skip to Page 91 for network configuration instructions.

Configuring Network Settings – Web Interface (firmware versions N12 and later)

The Model 375 area monitors are shipped with a static IP address and can be configured using an internet browser. The default IP address is 10.10.6.100.

The Model 375 area monitor can also be configured for DHCP. If the area monitor is configured for DHCP, it will be necessary to use the LMI Subnet Searcher software (which is detailed later) to determine the IP address of the area monitor. If the area monitor is configured for DHCP and there is no DHCP server available, the area monitor's IP address will fall back to 169.254.xx.xx, where xx.xx is randomly selected based on the area monitor's serial number. If the area monitor's IP address falls back, you will need to use a crossover cable to connect the area monitor to a PC. The LMI Subnet Searcher can then be used to show what IP address is assigned to the area monitor.

Open Internet Explorer or Firefox and type the IP address of the area monitor into the address bar. You should see a web page that looks similar to Figure 111.

NOTE: Starting with version 1.6.6, the 375 is no longer required to "trigger" the camera into sending an image. The Supervisor service now performs this functionality. The main benefit is that the software is more compatible with a wider variety of camera manufacturers. If you are using the camera setup as it was in previous versions will need to change to the new version which is much simpler and no longer requires an FTP server. The Service utility is used to configure camera operation now.

Model 375 Network Settings

| | | | |
|-------------------|--------------------------|--|--|
| Connection Status | Connected to Supervisor. | | |
| Current Reading | 0001.8 kcps | | |
| Firmware Version | 39801N15 | | |

| | | | |
|---------------------------------|------|--|--|
| Serial Number | | <input type="text" value="200000"/> | Serial number of device (000000 - 999999) |
| IP Address | DHCP | <input type="text" value="0.0.0.0"/> | IP address of device (0.0.0.0 for DHCP) |
| Subnet Mask | | <input type="text" value="255.255.0.0"/> | Subnet mask IP address of device |
| Gateway | DHCP | <input type="text" value="192.168.0.1"/> | Gateway IP address of device (automatically set for DHCP) |
| DNS | DHCP | <input type="text" value="192.168.0.9"/> | DNS IP address of device (automatically set for DHCP) |
| TCP/IP Port | | <input type="text" value="50000"/> | Port number of Supervisor service (0-65535) |
| Unit Code | | <input type="text" value="kcps"/> <input type="button" value="v"/> | Units of device |
| Supervisor Primary IP Address | | <input type="text" value="192.168.11.85"/> | First IP address that device will use to attempt to connect to the Supervisor service |
| Supervisor Secondary IP Address | | <input type="text" value="192.168.11.85"/> | Second IP address that device will use to attempt to connect to the Supervisor service |
| Camera IP Address | | <input type="text" value="192.168.199.2"/> | IP address of camera |
| Camera Password | | <input type="password" value="*****"/> | Password of camera |
| Camera Enabled | | <input type="radio"/> Yes <input checked="" type="radio"/> No | Determines whether or not camera is turned on. |

If you wish to change any of the above settings, simply enter the correct password in the "Password" text box, then click on the "Submit" button.

If you wish to change the password, enter the current password in the "Password" text box and the new password in the "New Password" and the "Confirm New Password" text boxes, then click on the "Submit" button.

If you wish to force the area monitor to check for a firmware update, enter the current password in the "Password" text box, then click on the "Check Firmware" button.

| | |
|---------------------------------|--------------------------|
| Password | <input type="password"/> |
| New Password (optional) | <input type="password"/> |
| Confirm New Password (optional) | <input type="password"/> |

Ludlum Measurements, Inc.
 501 Oak Street
 Sweetwater, TX 79556
 (325) 233-5494

Figure 99 – Model 375 Network Settings

Use the web interface to perform the following steps.

1. The serial number should be set at the factory; however, you may change the serial number if you wish by entering in the new serial number in the "Serial Number" text box.
2. In the "IP Address" text box, enter in the appropriate IP address for your Model 375 unit. **NOTE:** If DHCP is desired, enter in 0.0.0.0.
3. In the next three text boxes, enter in the subnet mask, gateway, and DNS addresses to match your network's configuration. **NOTE:** If the Model 375 is configured for DHCP, the subnet mask, gateway, and DNS addresses will be set automatically.

4. In the “TCP/IP Port” text box, enter in the port number that the Supervisor server will be listening on. This port number must match the port number set in the Supervisor Server Utility under the Database tab.
5. Use the “Unit Code” combo box to select the appropriate units for the Model 375. The units should match the actual display units of the area monitor.
6. In the “Supervisor Primary IP Address” text box, enter in the IP address of the computer that will be running the Supervisor service. If you have a second Supervisor computer, enter it in the “Supervisor Secondary IP Address” text box. If you do not have a second Supervisor computer, simply copy the Supervisor’s primary IP address into the secondary IP address text box.
7. Ignore the camera fields on the Network Settings page as they are no longer required. See the Service Utility for setting up the camera.
8. To save the new settings to the Model 375, enter the password into the “Password” text box, then click the “Submit” button. The initial password for a new Model 375 is “password”, all lower-case. If you wish to change the password, enter in the desired new password in the “New Password” and “Confirm New Password” text boxes before clicking the “Submit” button.

Configuring Network Settings – Setup Utility (firmware versions 39801N11 and earlier)

The Area Monitor Utility is used to configure the network settings for any Model 375 area monitors that do not have the web interface installed (firmware versions 39801N11 and earlier). When run, the utility will attempt to find all area monitors that are on the local network. This utility can be run from any computer. Below is a screen shot of the setup utility.

Figure 100 – Area Monitor Utility

The Area Monitor Utility uses a broadcast UDP message to find area monitors on the network. Because of this, area monitors that are located in different buildings or cities may not be found. In order to successfully configure the area monitors settings, it will be necessary to do one of the following:

1. Connect a laptop directly into the area monitor or use a computer at the same location as the area monitor.
2. Bring the area monitors to the same location as the server. Once they have been configured, move them back to their correct locations.

Model 375 Unit List: List of all Model 375 area monitors found on the network and in the settings.config file. Click the “Refresh Model 375 List” to update.

If “Disconnected” is shown next to an area monitor, it means that the serial number for the area monitor was found in the configuration file but the Area Monitor Utility did not receive any data from it. This is usually caused when the area monitor is in a remote location that does not allow the UDP message to pass back and forth and is normal. When disconnected, it will not be possible to change any of the area monitor settings.

Serial Number: Each area monitor has a unique serial number stamped on the chassis in the lower left-hand corner of the Model 375. Enter this number here. This number is required for proper operation of the service.

Unit Code: Code signifying what unit of measurement the readings are displayed in – should match the display plate located under the Model 375 four (or five) digit LED display.

Firmware: Firmware number of Model 375 Ethernet board. Firmware versions 39801n011 and lower only support changing the network settings with this utility. The settings for versions 39801n12 and higher can only be viewed in the Model 375 Setup Utility and can only be changed through its built-in web interface.

Network Settings

IP Address: The IP Address assigned to this area monitor. Set the IP address to 0.0.0.0 to use DHCP. **NOTE:** When DHCP is used, you will see a DHCP label next to the IP address.

Subnet Mask: Subnet mask assigned to this area monitor.

Gateway: Gateway address assigned to this area monitor. **NOTE:** When DHCP is used, you will see a DHCP label next to the gateway.

DNS: Domain name server address assigned to this area monitor. If the area monitor is set up to use DHCP, this address will update automatically. If the area monitor is assigned a static IP and DNS capability is desired, this value **MUST** be a valid IP address to a domain name server on your network.

Primary Supervisor Address: Host name or IP Address of the primary service. It's possible to run the service on two separate computers. If the primary service is unavailable for any reason the area monitor will attempt to connect to the secondary service.

NOTE: The Primary Supervisor Address **MUST** be set to a static IP, and a valid name server address must be present in the DNS text boxes in order for the Primary Supervisor Address to be a server name.

Secondary Supervisor Address: Host name or IP Address of the secondary service. If the primary service is unavailable for any reason the area monitors may attempt to communicate to the secondary service to minimize down time.

NOTE: The Secondary Supervisor Address **MUST** be set to a static IP, and a valid name server address must be present in the DNS text boxes in order for the Primary Supervisor Address to be a server name.

Supervisor Port: TCP port number the Model 375 Supervisor service listens on for area monitors. All area monitors that connect to a computer must use the same port number.

Camera Settings

NOTE: Starting with version 1.6.6, the 375 is no longer required to "trigger" the camera into sending an image. The Supervisor service now performs this functionality. The main benefit is that the software is more compatible with a wider variety of camera manufacturers. If you are using the camera setup as it

was in previous versions will need to change to the new version which is much simpler and no longer requires an FTP server. The Service utility is used to configure camera operation now.

Service Utility

The Service Utility is used to configure the various features of the software. It provides the following:

- Add and delete instruments
- Configure email settings
- Configure database login
- Setup user-defined fields
- Place area monitors on a user-supplied location map

A screen shot of the Service Utility is shown in Figure 113 below.

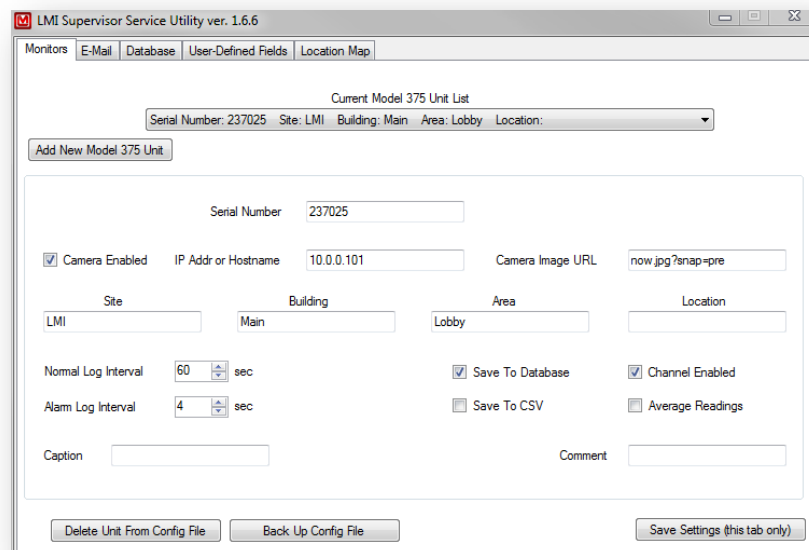


Figure 101 – Service Utility

Supervisor Settings

Serial Number: This is the serial number of the particular area monitor and must match the value on the instruments network settings page or the value set by the Model 375 Setup Utility.

Camera Enabled: Enable/Disable the camera for this area monitor.

Camera IP or Host Name: Specify the IP Address or host name of the Ethernet camera the for this area monitor.

Camera Image URL: Specify the URL that when combined with the Camera IP will return a static image. Consult your Ethernet camera documentation or manufacturer for the correct value to place here. Some examples are below:

| Manufacturer | URL |
|-------------------|-------------------|
| IQinVision | /now.jpg?snap=pre |
| Axis | /jpg/image.jpg |
| Pelco | /snap.jpg |

Site: User-defined field to help filter the list of instruments.

Building: User-defined field to help filter the list of instruments.

Area: User-defined field to help filter the list of instruments.

Location: User-defined field to help filter the list of instruments.

Normal Log Interval: Specify the logging interval when the area monitor is not alarming. The default value is 5 minutes or 300 seconds.

Alarm Log Interval: Specify the logging interval when the area monitor is alarming. This value can be much quicker than the normal log interval to collect more data during an alarm. The minimum is two seconds.

Save to CSV: Log data to a comma delimited file.

Save to Database: Log data to the SQL database.

Channel Enabled: Service will ignore area monitors that are not enabled.
NOTE: if you wish for this unit to log data, make sure this option is checked!

Average Readings: When checked, the logged reading will be the average during the log interval. If unchecked, the logged reading will be the maximum reading during the log interval.

Caption: User-defined caption displayed next to the area monitor on screen.

Comment: User-defined comment.

Adding Area Monitors to the Service

The Current Model 375 Unit List at the top of the screen shows all Model 375 Area monitors that are added. To add another area monitor to the Supervisor service, click the “Add New Model 375 Unit” button, enter the appropriate settings, and click the **Save Settings** button. This will add the Model 375 Area monitor to the Service.

Modifying and Deleting Area Monitors

To modify the settings of any existing area monitors, simply click on the combo box at the top of the screen and select the area monitor you wish to change. Enter in the desired changes, then click the “Save Settings” button.

To remove an area monitor from the Supervisor service, use the combo box at the top of the screen to select the area monitor you wish to remove, then click the “Delete Unit From Config File” button.

Creating a Backup of the Configuration File

To create a backup copy of the configuration file, click the “Back Up Config File” button.

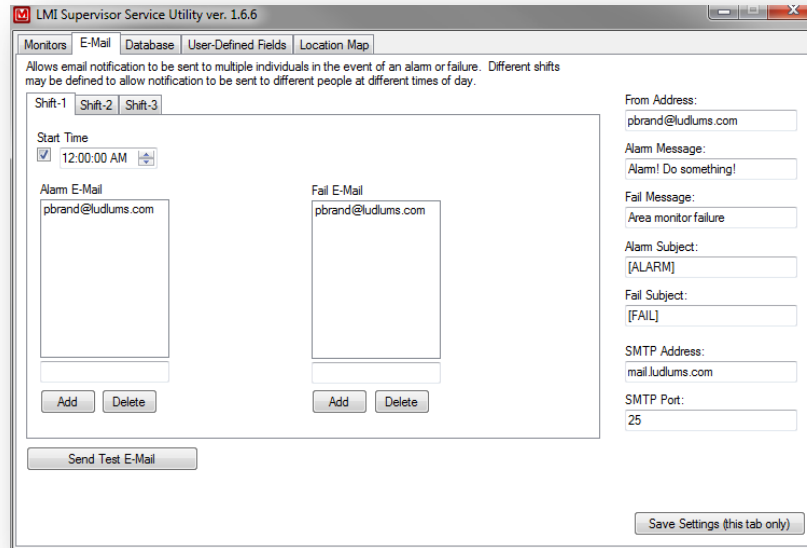


Figure 102 – Email Settings

Email Settings

Alarm Notification: For each shift there are 10 E-Mail addresses that can be defined to receive alarm notifications.

Failure Notification: For each shift, there are 10 E-Mail addresses that can be defined to receive failure notifications.

Shift 1 Start Time: Defines the start time of shift 1.

Shift 2 Start Time: Defines the start time of shift 2.

Shift 3 Start Time: Defines the start time of shift 3.

From Address: Address all E-Mails appear to be from.

Alarm Message: User-defined message added to all alarm E-Mails.

Fail Message: User-defined message added to all fail E-Mails.

SMTP Address: Address of E-Mail server. If you do not know this, contact your network administrator for more information.

SMTP Port: Port number of E-Mail Server. If you do not know this, contact your network administrator for more information.

Alarm Subject: User-defined subject line for alarm E-Mails.

Fail Subject: User-defined subject line for fail E-mails.

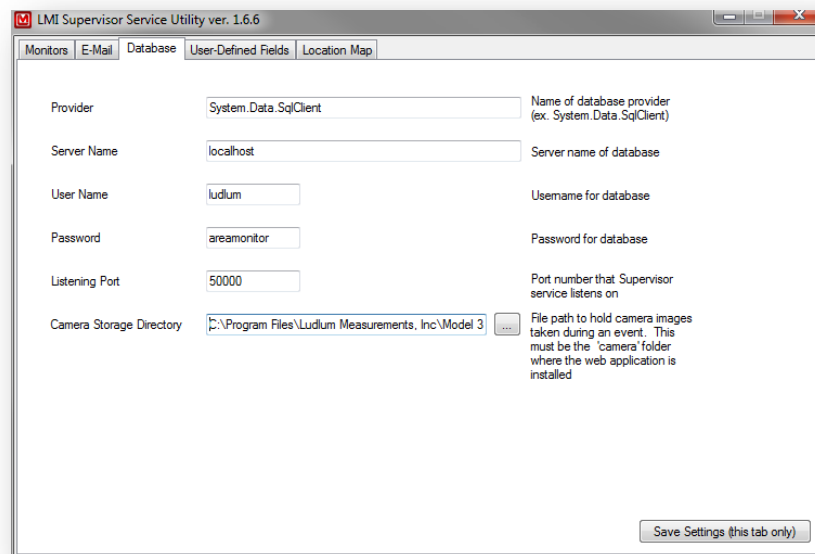


Figure 103 – Database Settings

Database Settings

Provider: Database provider. Do not change.

Server Name: SQL Server name. For SQL Express it should be "localhost\SQLEXPRESS".

User Name: Name to log into SQL database. Must match the username created when configuring the SQL Server.

Password: Password to log into SQL database. Must match the password created when configuring SQL Server.

Listening Port: TCP port number Supervisor service listens on for area monitors. Must match the TCP/IP port on Figure 111.

Camera Storage Directory: File path to hold the camera images taken during an event. This must be the "camera" folder where the web application is installed. The default is c:\Program Files\Ludlum Measurements, Inc\Model 375 Supervisor Service\camera.

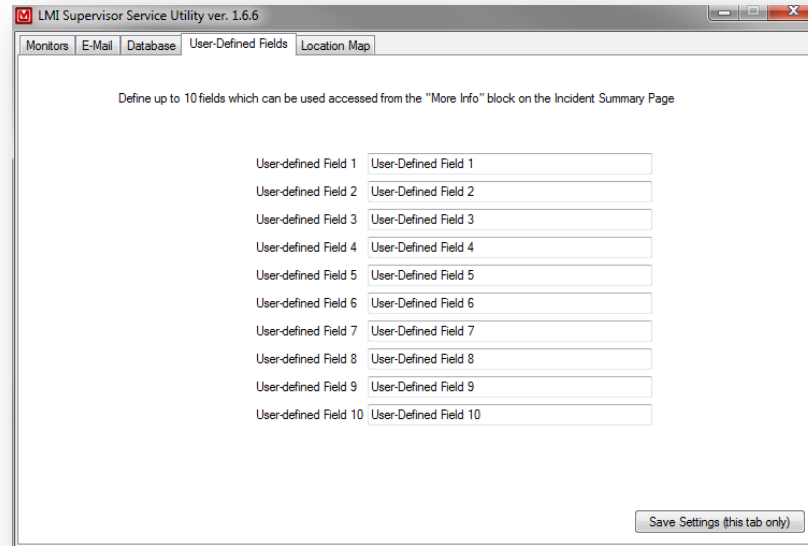


Figure 104 – User-Defined Fields

User-Defined Fields

Ten user-defined fields can be setup. For any incidents a comment can be added to each field by clicking on the View button next to the incident. These fields can be used to add additional information about the incident. Here each field can be given a name.

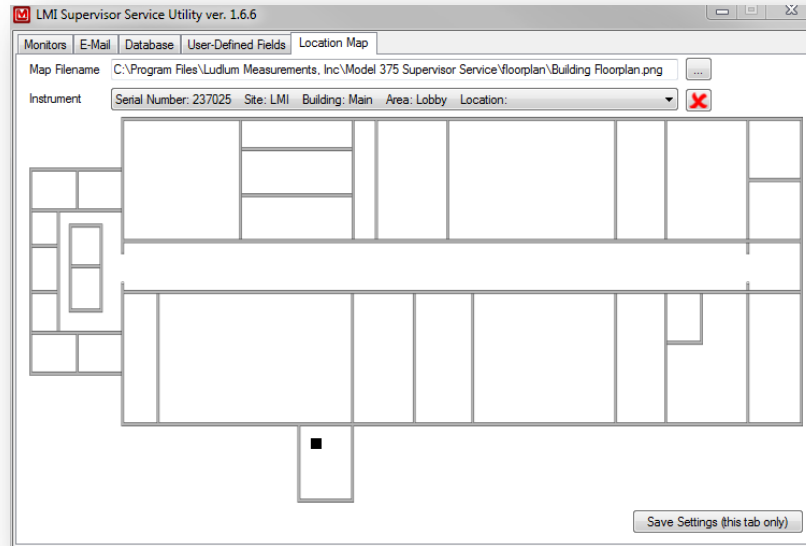


Figure 1057 – Location Map

Location Map

The Location map allows the area monitors to be placed on an image of the buildings floor plan. This allows the current status of all instruments to be viewed in addition to its location in the building. The Floor plan web page will show the current status of the instrument as a color coded background along with the current reading.

Select an image to be used for the floor plan. The software supports .BMP, .JPG, and .PNG files. The image will be scaled to fit the screen.

To add an instrument, select it from the drop-list list. Click on the location for the area monitor and a marker will be placed. This marker represents where it will show up on the floor plan web page. If the instrument needs to be moved, simply click on the new location.

To delete an instrument from the location map, select it from the drop-down list and click the red X button. The marker will be removed from the location map and will not show up on the floor plan web page.

Updating Model 375 Ethernet Board Firmware Using FTP

Beginning with Ethernet firmware version N10, the Model 375 Area Monitor has the ability to remotely update Ethernet firmware. This saves the user from having to send each area monitor to LMI every time a firmware update is released.

On power-up, the area monitor's Ethernet board runs a program that is known as the Download Manager (DLM). The DLM attempts to connect to an FTP server located at the Supervisor Primary IP Address. If the firmware version on the FTP server is different from the firmware version stored in the area monitor's Ethernet board, the DLM will automatically download the firmware update to the Ethernet board.

Perform the following steps on the Supervisor computer to remotely update firmware for instruments in the field:

1. Using Windows Explorer, navigate to the following folder:
C:\Inetpub\ftproot
2. Create a new folder named "Firmware".
NOTE: the remote firmware update path is case-sensitive, so make sure that the spelling and case are correct for the new folder name.
3. Copy the two firmware files (provided by LMI) into the "Firmware" folder. Make sure that the file named "FirmwareVersion" has no extension. The "39801Nxx.bin" file should have its extension.

Once these steps are completed, simply cycle power in each Model 375 instrument to install any firmware updates. The firmware update should take 2 to 3 minutes and will not appear in the Setup Utility during this time.

NOTE: If the firmware for your Model 375 Area Monitor's Rabbit Ethernet board is earlier than N10 and does not support the DLM, the Model 375 Rabbit Ethernet board can be programmed using an RS-232 port and a Rabbit programming cable, which can be purchased using the following link:

<http://www.digi.com/products/wireless-wired-embedded-solutions/>

Section

9

Operation

The Model 375 Supervisor Service will listen for TCP connections on the specified port. When a connection is made, the service will start processing messages from the Area monitor. **NOTE:** If any enabled Model 375 area monitors are missing, a “missing” status will be generated for each unit.

E-Mail

When an alarm or failure occurs, the service will send out an E-Mail using the address list specified by the shift definition. The area monitor must be in a non alarming state for 60 seconds before another alarm or fail will be triggered.

Example E-Mail message

Subject: [Model 375 Alarm] Area monitor has Alarmed

Reading: 1000 μ R/hr
Attention! Alarm!

S/N: 400000
Hospital 1
Building 2
Floor 3
Room 4

This E-Mail was generated by:
Model 375 Supervisor Service

The subject line is user-definable and a custom message can be added to the E-Mail – see Figure 114.

Data Logging

The data is logged on two different intervals depending on the status of the area monitor. The normal log interval is used when the area monitor is not alarming or failing. The alarm log interval is used when the area monitor is alarming or failing. Typically the alarm log interval is set to log data at a faster rate to collect more information during an alarm. The data can be logged to the SQL Server database and/or a comma delimited (.CSV) text file. The CSV file is saved in the same folder where the service is installed. The filename of this file is the

current date in the format of “yyyymmdd.csv”. A header at the top of the file identifies the field names.

Example CSV file (20070526.CSV)

```
"Serial Number", "Site", "Building", "Area", "Location",  
"Reading", "Units", "TimeStamp", "Audio", "Alarm1",  
"Alarm2", "OverRange", "Monitor", "ErrorCode", "Ethernet  
Version", "Monitor Version", "Service Version", "ImagePath"  
"400000", "", "", "", "", "104.29", "µR/hr", "5/26/2007 12:15:45  
PM", 0, 0, 0, 0, 1, 0, "Unknown", "Unknown", "1.0", ""
```

The area monitors output readings at two second intervals. The logged data can either be an average of the two second readings or the maximum value during the interval.

Event Log

Status and error messages are logged to the Windows Event Viewer under the Supervisor Service. Message here include when the Model 375 Supervisor service is started and stopped, connections made from area monitors and any errors that occur.

To open the Windows Event Viewer, open the **Control Panel**, then **Administrative Tools**, then **Event Viewer**.

Web Interface

The Ludlum Webpage interface allows users anywhere on the network with appropriate network access to view current status, a list of “incidents” (radiation alarms or instrument failures), or to view a particular instrument’s readings in graph form. The user need only use a standard web browser such as Internet Explorer or Mozilla Firefox to access the webpage. To access the webpage, the user needs to know the IP address of the host computer, or to be furnished a URL link to any of the three pages. Once into the webpage, there are links to move among the three pages.

One examples of a valid URL would include:

<http://localhost/AreaMonitor/CurrentStatus.aspx>

If not browsing on the Service computer, a valid URL would be:

<http://###.###.###.###/AreaMonitor/CurrentStatus.aspx>, where the #s represent the IP address of the Service computer.

Current Status Page

The Current Status page allows the user to view the current information for all or a selected group of instruments, including the serial number, last reading,

location information, and current status for each unit. Figure 117 shows an example of the Current Status page.

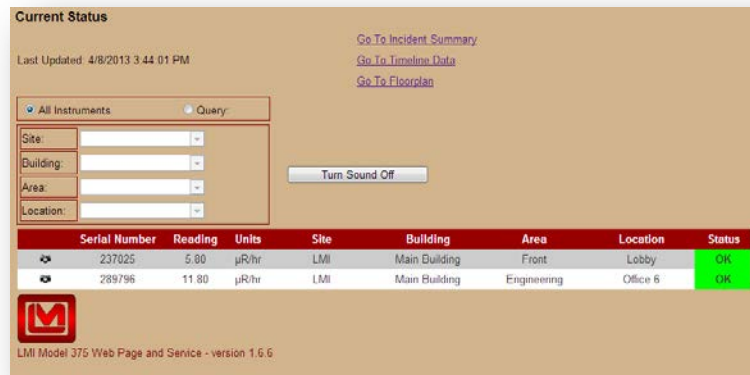


Figure 106 – Current Status

The page dynamically updates itself every 10 seconds, which means that the user never has to refresh the page in order to get the most recent information. The color-coded status column on the right indicates one of four possible states: OK, Alert, Alarm, and Missing. If an instrument is either alarming or missing, an audible tone will sound. This tone can be customized by replacing the “alarm.wav” file, located at C:/Program Files/Ludlum Measurements, Inc/Model 375 Supervisor Service /wav(or wherever the ASP application is installed on the host machine). **NOTE:** If you choose to change the audible tone, the new tone must be named exactly the same as the old tone (alarm.wav).

By default, all instruments are displayed. To narrow down the list, select the “Query” option and use the drop down boxes to navigate to different sites, buildings, areas, and locations, and the list will automatically update to show only the selected items, as shown in Figure 118:

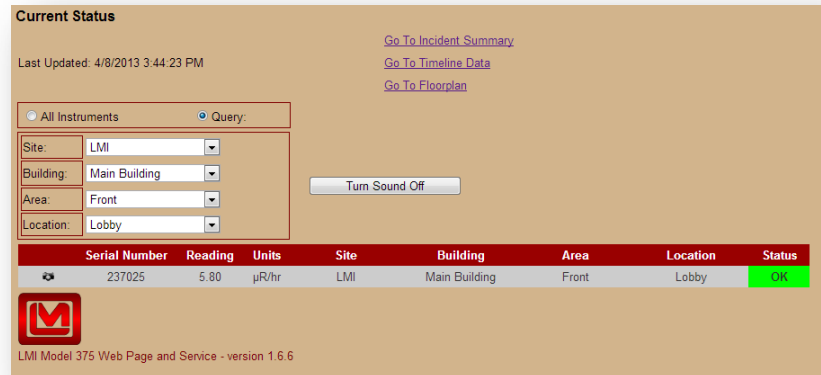


Figure 107 – Example of filtered Current Status

Timeline Data Page

The Timeline Data page allows the user to graph and save historical data from any instrument over any period of time. Graphing features include the ability to click on a point and zoom in and out around the selected point, as well as a graph smoothing feature.

When the page is initially loaded, the data for the first instrument over the current day is loaded and a graph of the data is generated, as shown in Figure 119.

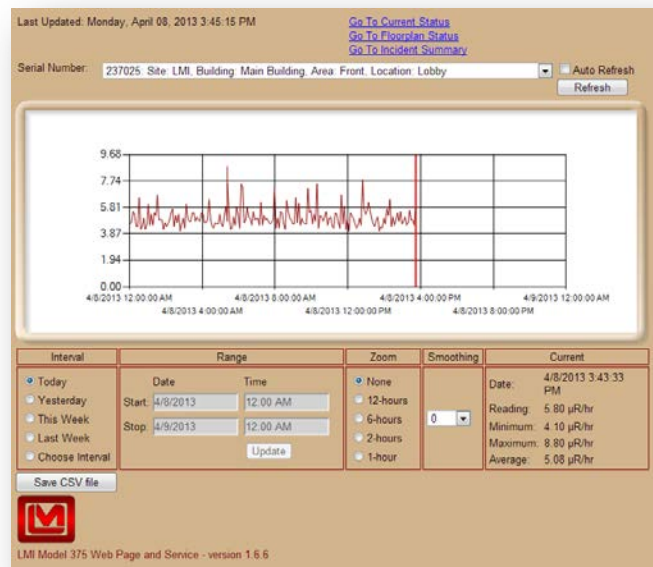


Figure 108 – Timeline Data

The graph is automatically updated every 10 seconds when the Auto Refresh checkbox is checked and the Interval is set for Today. To select a different unit, use the serial number drop box at the top of the page. To select a different time interval, use the radio buttons located below the serial number drop box.

The user also has the option to save the graph data to a CSV file. **NOTE:** If you use Internet Explorer and wish to save data to a file, you will need to perform the following steps:

1. Go to the Tools menu, then Internet Options.
2. Click on the Security tab, then click on “Local Intranet.”
3. Click on the “Sites” button.
4. Click on the “Advanced” button.
5. Click the “Add” button to add the IP address of the server to the list of allowed sites.

NOTE: These steps also allow the user to save data in the Timeline Data page using Internet Explorer.

If you want a smoother graph, increase the smoothing factor (any integer between 1 and 30) to accomplish this, as demonstrated in Figure 120 and Figure 121.

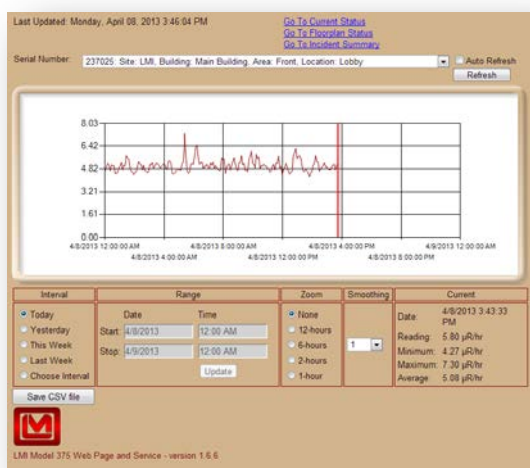


Figure 109 – Timeline graph with smoothing value of 1

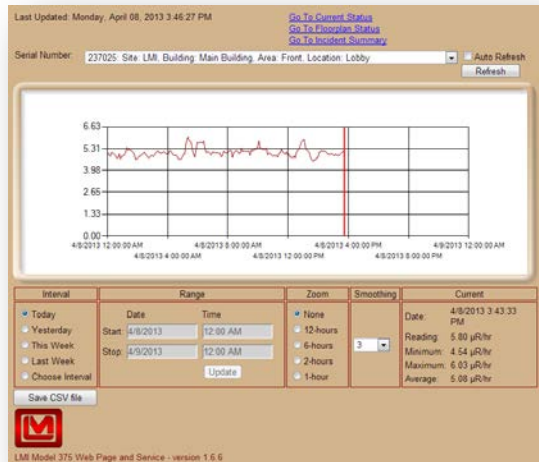


Figure 110 – Timeline Graph with smoothing value of 3

Zooming In and Out on Graph

The Timeline Data page allows the user to zoom in and out on the graph. To begin zooming, click on any point on the graph. When you click on the graph, the data for the nearest point will be displayed and within a few seconds, a cursor will appear and highlight where you clicked, as shown in Figure 122.

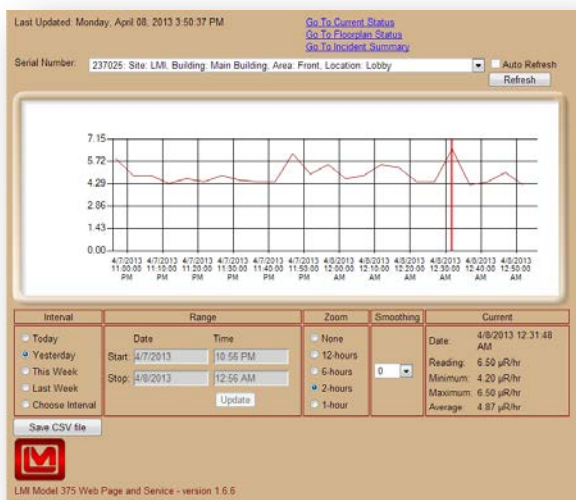


Figure 111 – Selected data point in Timeline Graph

Use the buttons on the bottom to navigate the cursor along the graph's data points. Now you're ready to zoom! There are four zoom levels available, in the following ranges: 12-hour, 6-hour, 2-hour, and 1-hour. Click on the appropriate button for the range you wish to see, or click on "No Zoom" to reset the graph to its original state. In Figure 123 and Figure 124, the zoom function is demonstrated using the graph from a previous example.

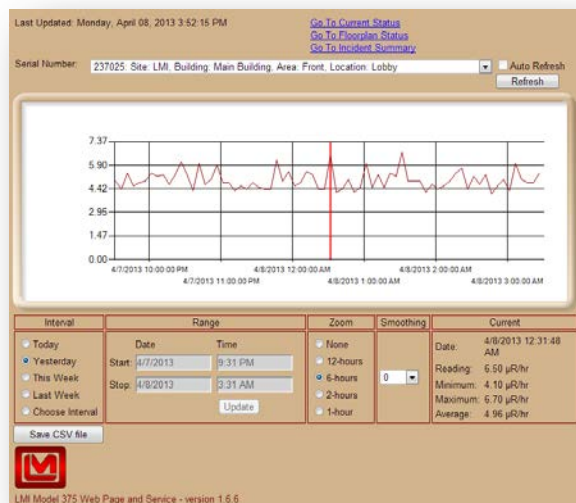


Figure 112 – Timeline Graph showing six hours of data

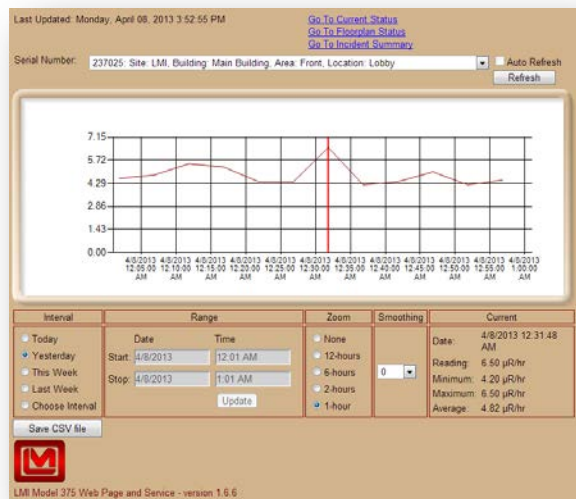


Figure 113 – Timeline Graph showing one hour of data

Incident Summary Page

The Incident Summary page keeps track of any incidents that take place on any or all instruments that are connected to the Supervisor service. Incident data can be saved to both an Excel file (.XLS) and a comma-delimited file (.CSV). There are three types of incidents that can occur with the Model 375:

- ☢ **ALARM** – The alarm incident occurs when the reading from an instrument exceeds the second (highest) alarm level.
- ☢ **FAIL** – The fail incident occurs when the instrument is connected to the Supervisor service but is not working properly.
- ☢ **MISSING** – The missing incident occurs when the Supervisor service cannot connect to an instrument.

When an incident takes place, the Incident Summary page logs the start of that incident. To avoid multiple listings of an incident that is intermittent but persisting, the instrument must remain incident-free for 60 seconds before the summary page declares the incident over. After the incident has been clear for 60-seconds, the service logs the time/date of the end of the incident.

The View button next to each incident allows the user to enter in information or comments about the event.

The user can select a time period to view incident data in the same manner as the Timeline Data page. The user can also narrow down the incident list to a particular site, building, area, and location in the same manner as the Current Status page.

The default view when the Incident Summary page is first loaded is shown in Figure 125.

Incident Summary
Last Updated: 4/8/2013 3:53:30 PM

☐ Today
☒ Yesterday
☐ This Week
☐ Last Week
☐ Choose Interval

Start Date: 4/8/2013 12:00 AM
 Stop Date: 4/8/2013 11:59 PM
 Update

Site:
 Building:
 Area:
 Location:

[Go To Current Status](#)
[Go To Timeline Data](#)
[Go To Floorplan](#)

[Save Data To File \(CSV\)](#)

| Incident Summary | | Incident Date Range | |
|------------------|---------------------|-----------------------|----------------------|
| Site | Number of Incidents | FROM: | TO: |
| LMI | 5 Incidents | 3/31/2013 12:00:00 AM | 4/6/2013 11:59:59 PM |

| Serial Number | Reading | Units | Start Time | End Time | Site | Building | Area | Location | Type | |
|---------------|---------|-------|----------------------|----------------------|------|---------------|-------------|----------|---------|----------------------|
| 289796 | 118.2 | µR/hr | 4/5/2013 2:33:32 PM | 4/5/2013 2:36:57 PM | LMI | Main Building | Engineering | Office 6 | ALARM | View |
| 237025 | 0.0 | µR/hr | 4/5/2013 1:25:42 PM | 4/5/2013 1:25:42 PM | LMI | Main Building | Front | Lobby | MISSING | View |
| 237025 | 20.5 | µR/hr | 4/5/2013 12:51:19 PM | 4/5/2013 12:52:38 PM | LMI | Main Building | Front | Lobby | ALARM | View |
| 237025 | 0.0 | µR/hr | 4/5/2013 9:57:39 AM | 4/5/2013 9:57:39 AM | LMI | Main Building | Front | Lobby | MISSING | View |
| 237025 | 21.4 | µR/hr | 4/5/2013 9:37:42 AM | 4/5/2013 9:39:22 AM | LMI | Main Building | Front | Lobby | ALARM | View |

☒ Photo of Alarm Available ☒ Camera Error/Missing

LMI Model 375 Web Page and Service - version 1.6.6

Figure 114 – Incident Summary

The Incident Summary page updates itself every 10 seconds unless the “Choose Interval” option is selected (the auto refresh can be disabled by clicking on the “Incident Refresh: On” button, similar to the Timeline Data page). This enables a “live” look at any incidents that take place, allowing the user to stay on top of a potentially dangerous situation.

If a camera logo appears next to an alarm incident, this means that an image was taken at the time of the incident and is available for viewing. Click on the camera image to open a separate window and view the image. If the red exclamation point appears next to an alarm incident, this means that the camera for that unit was enabled but is either malfunctioning or missing.

An example of the time and location filters in use is shown in Figure 126.

Incident Summary
Last Updated: 4/8/2013 3:55:34 PM

☐ Today
☐ Yesterday
☒ This Week
☐ Last Week
☐ Choose Interval

| Date | Time |
|---------------------------------------|----------|
| Start Date: 4/5/2013 | 12:00 PM |
| Stop Date: 4/5/2013 | 11:59 PM |
| <input type="button" value="Update"/> | |

Site:
 Building:
 Area:
 Location:


[Go To Current Status](#)
[Go To Timeline Data](#)
[Go To Floorplan](#)

| Incident Summary | | Incident Date Range | |
|------------------|---------------------|----------------------|----------------------|
| Site | Number of Incidents | FROM: | TO: |
| LMI | 3 Incidents | 4/5/2013 12:00:00 PM | 4/5/2013 11:59:00 PM |

Incident List

| Serial Number | Reading | Units | Start Time | End Time | Site | Building | Area | Location | Type | |
|---------------|---------|-------|----------------------|----------------------|------|---------------|-------------|----------|---------|--|
| 289796 | 118.2 | µS/hr | 4/5/2013 2:33:32 PM | 4/5/2013 2:36:57 PM | LMI | Main Building | Engineering | Office 6 | ALARM | <input type="button" value="View"/> |
| 237025 | 0.0 | µR/hr | 4/5/2013 1:25:42 PM | 4/5/2013 1:25:42 PM | LMI | Main Building | Front | Lobby | MISSING | <input type="button" value="View"/> |
| 237025 | 20.5 | µR/hr | 4/5/2013 12:51:19 PM | 4/5/2013 12:52:38 PM | LMI | Main Building | Front | Lobby | ALARM | <input checked="" type="button" value="View"/> |

☒ Photo of Alarm Available
 ☒ Camera Error/Missing



LMI Model 375 Web Page and Service - version 1.6.6

Figure 115 – Filtered Incident Summary

Clicking the View button next to an incident will open a page where comments can be entered. Ten comment fields can be used to add additional information about the incident. Click the Save button to save the comments. The View button will change to green once comments have been saved for an incident.

User-Defined Field 1

 User-Defined Field 2

 User-Defined Field 3

 User-Defined Field 4

 User-Defined Field 5

This is a comment!

Figure 116 – Filtered Incident Summary

Floor Plan Status Page

The Floor Plan page allows the user to view the current information for all or a selected group of instruments, including the serial number, last reading, location information, and current status for each unit on a location map. Figure 117 shows an example of the Floor Plan page.

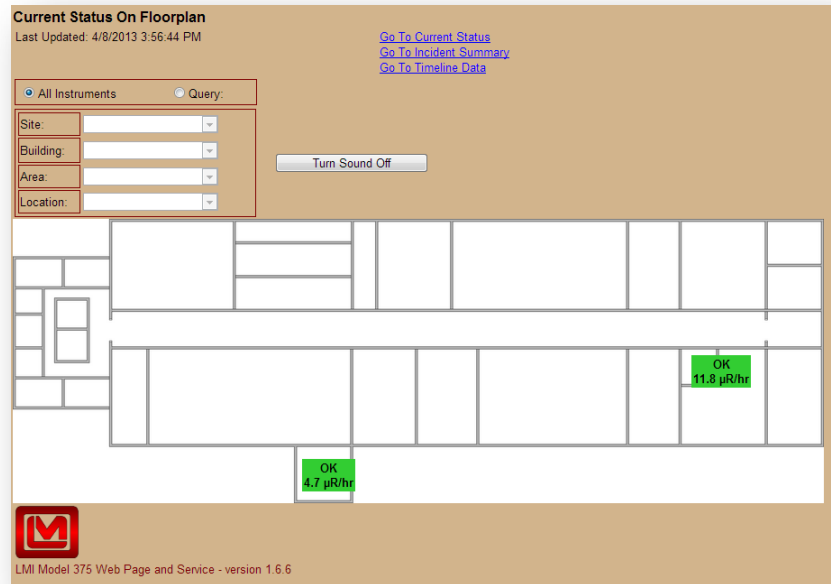


Figure 117 – Current Status

The page dynamically updates itself every 10 seconds, which means that the user never has to refresh the page in order to get the most recent information. The color-coded status indicates one of four possible states: OK, Alert, Alarm, and Missing. If an instrument is either alarming or missing, an audible tone will sound. This tone can be customized by replacing the “alarm.wav” file, located at C:/Program Files/Ludlum Measurements, Inc/Model 375 Supervisor Service /wav(or wherever the ASP application is installed on the host machine). **NOTE:** If you choose to change the audible tone, the new tone must be named exactly the same as the old tone (alarm.wav).

By default, all instruments are displayed. To narrow down the list, select the “Query” option and use the drop down boxes to navigate to different sites, buildings, areas, and locations, and the list will automatically update to show only the selected items.

Section

10

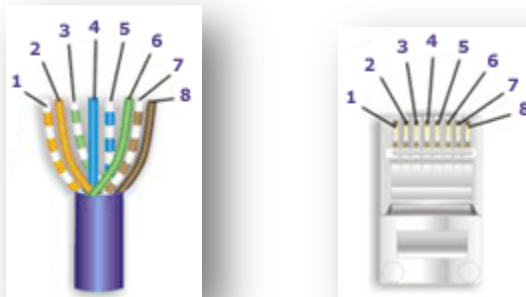
Ethernet Information

IP Addresses

Note: Never connect a device into your network unless you are sure the IP Address and network mask are configured correctly. Failure to do so may disrupt your network.

Each device on a network has a unique address. This number is called the Internet Protocol (IP) Address. This number can either be dynamically or statically assigned. A static IP Address is assigned to the device manually. A dynamic IP Address is automatically assigned by a Dynamic Host Configuration Protocol (DHCP) server. The format is a 32-bit numeric address written as four numbers separated by periods (dots). Each of the four numbers ranges from 0 to 255.

Ethernet Cable Termination



Looking at the connector with the pins at the top facing you, pin 1 is on the left. Pin 8 is on the right.

Pin 1 – White/Orange

Pin 2 – Orange

Pin 3 – White/Green

Pin 4 – Blue

Pin 5 – White/Blue

Pin 6 – Green

Pin 7 – White/Brown

Pin 8 – Brown

Tools required for cable termination

- Wire Strippers
- Network Cable Tester
- Network Cable Crimper
- RJ-45 connectors appropriate for cable conductor type.
- Category 5E Network Cable, Stranded or Solid conductor.

Stranded cable is generally used where the network cable can be moved, such as patch cables. Solid cable is used where the cable will be fixed, such as internal wiring in walls.

If possible, save some of the extra cable that has been pulled into where the switch is located. This extra cable can be used to make patch cables, if necessary.

1. Strip off approximately 1" of the cable jacket.
2. Untwist the 4 pairs and straighten them out.
3. Arrange them in a fan shape, following the color order above, with the White/Orange wire on the left, and the Brown wire on the right.
4. Bring the wires together until they touch. Double-check the order.
5. Cut the wires to make a 90° angle approximately 1/2" from the end of the jacket. The wires must be cut straight so that they fit all the way into the connector to make good contact with the pins.
6. Align Pin 1 of the cable with Pin 1 of the connector and insert the cable into the connector. Push firmly so the wires go all the way to the top of the connector and the jacket goes into the connector by about 3/16". Again, check to make sure the colors are in the right order.
7. Place the connector into the crimp tool and squeeze the handle hard.

8. Inspect the connector to make sure all pins were crimped.
9. Repeat steps 1-8 for other end.
10. Use a cable tester to test the cable for shorts and crossed wires.

Section

11

Troubleshooting

The most common issues when setting up the hardware and software are:

- ☢ Area Monitors reported as “Missing”
- ☢ Unable to set the network settings of the area monitor
- ☢ Errors when accessing the web pages

The first two are almost always a network issue, while the last is usually a problem with the server configuration. For troubleshooting purposes start with the area monitor and work back to the server.

Troubleshooting the Area Monitor

Some basic things to ensure are that the area monitor is turned on, connected to AC power and that a network cable is connected to it. The network jack the area monitor is plugged into must support 10 Mbps/half-duplex. Verify that the switch shows a link for the area monitor.

Ethernet Output

When the area monitor establishes a connection, a data message will be sent every two seconds in the form of an XML document. Below is an example XML message:

```
<?xml version="1.0" encoding="us-ascii" ?>
<area_monitor rev="1.0" serial="12345">
  <status>
    <rate>9999.9</rate>
    <raw>9999999</raw>
    <units_code>99</units_code>
    <audio>1</audio>
    <alarm1>1</alarm1>
    <alarm2>1</alarm2>
    <over_range>1</over_range>
    <monitor>1</monitor>
    <error_code>9</error_code>
  </status>
</area_monitor>
```

Firewalls

Check to make sure that any firewall or router between the computer running the Supervisor service and the area monitor are not blocking the TCP port used. Firewalls and/or routers may need to be configured to allow the area monitor traffic to pass through.

The Model 375 Setup Utility and LMI Subnet Searcher programs use UDP Port 20034 to communicate with the area monitors. The area monitor attempts to establish a TCP connection to the Supervisor Primary and Secondary Addresses using the port specified. The firewall should be configured to allow inbound and outbound traffic on UDP port 20034 and inbound TCP on which ever port number was specified in the Model 375 Ethernet settings. This should match the port that the Model 375 Supervisor service is listening on.

Ethernet Status Lights

If the cover is removed from the area monitor to expose the Ethernet board, there are two status LEDs that can be used to help troubleshoot connectivity problems. These LEDs are located near the Ethernet connector.

The yellow LED is the activity indicator and the green LED is the link indicator. When powering on the area monitor the green LED will blink once. This will indicate that the Ethernet board is getting power. With an Ethernet cable connected, the green LED will be steady ON which indicates a link to the network. The yellow LED should blink to indicate network activity. Depending on network activity the light may blink occasionally or may blink very fast.

Troubleshooting the Network

Troubleshooting network problems can be tough to track down, especially if the network is complex and if the area monitors are located in different locations. Below are some steps to try if you cannot communicate with an area monitor or if it cannot communicate with the server.

Unable to Configure Network Settings

The Ethernet settings can be configured in one of two ways depending on the firmware version. Firmware versions 39801n11 and earlier use UDP communication and require the use of the Model 375 Setup Utility. Firmware versions 39801n12 and higher can be configured by accessing the area monitor by its IP address in a web browser. The Model 375 Setup Utility can still be used to see the area monitor and its network settings but it will not be able to change them.

If the area monitor cannot be seen in the Model 375 Setup Utility and has firmware 39801n11 or older, try one or more of the following:

1. Move the area monitor to the same network (location) as the server and connect it to the network there.
2. Connect a laptop loaded with the Model 375 Setup Utility directly to the area monitor using a cross over cable if necessary. The network settings on the laptop do not matter but the network card needs to be configured for 10 Mbs/Half-duplex.
3. Disable or modify the firewall settings to allow traffic on UDP port 20034. If you are not sure how to add a rule to the firewall, temporarily disable the firewall. If you still cannot see the area monitor in the Model 375 Setup Utility, re-enable the firewall as this is not the cause.
4. Cycle the power on the area monitor.
5. Try pinging the area monitor if you know its IP Address. See instructions below. If possible, try from the server and from a computer on the same network as the area monitor.

If the area monitor cannot be seen in the Model 375 Setup Utility or by a web browser and has firmware 39801n12 or newer, try one or more of the following:

1. Disconnect all area monitors that are not working except for one. If the area monitors have the default settings, then they will all be set to the same IP address which will make it difficult to access them.
2. Try pinging the area monitor. See instructions below. If possible, try from the server and from a computer on the same network as the area monitor.
3. If you can see it with the setup utility but not in a web browser, contact your IT department as they may need to change your computers security settings to see the web page running on the area monitor.
4. Cycle power on the area monitor.

Ping the Area Monitor

It should be possible to ping the area monitors by IP Address from the computer running the service as shown below:

```
C:>ping 192.168.10.66
```

```
Pinging 192.168.10.66 with 32 bytes of data:
```

```
Reply from 192.168.10.66: bytes=32 time<1ms TTL=128  
Reply from 192.168.10.66: bytes=32 time<1ms TTL=128
```

```
Reply from 192.168.10.66: bytes=32 time<1ms TTL=128
Reply from 192.168.10.66: bytes=32 time<1ms TTL=128
```

```
Ping statistics for 192.168.10.66:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

There should be no lost packets and the time for each packet should be less than 100ms. If there are any lost packets or error messages, then the area monitor is not properly configured on the network or there is a problem with the network.

Area Monitors Report as Missing

If an area monitor is reported as missing, this means that it is not able to make a TCP connection to the computer running the Model 375 Supervisor Service. The area monitor will attempt to make a connection first to the Primary Supervisor address and then to the Secondary Supervisor address on the TCP port specified. This port must match the port in the Model 375 Supervisor Server Utility under the Database tab. The default port number is 50000.

Try one or more of the following to determine what the problem is:

1. Plug a laptop with the same network settings as the area monitor into its network jack and see if you can ping the server's IP address. If you can ping the server OK, try using telnet to access the server. This can be done from the Windows command line using the command "telnet ip-address port-number" without the quotes. Substitute the IP address of the server and port number with the correct values. If you can not ping or telnet into the server, this indicates a problem with the network or server configuration.
2. Stop the Model 375 Supervisor Service on the server and run HyperTerminal if available. In HyperTerminal, configure the host address to that of the area monitor, the port number to the port used, and connect using TCP/IP (Winsock). Select Wait for Call from the Call menu and wait for the area monitor to make a connection. If the connection is successful, the screen will fill with the XML data message. If no data is displayed or a connection is not established, verify that the area monitor is correctly configured to connect to the server.

Troubleshooting the Supervisor Service

First make sure the Model 375 Supervisor Service is running. Launch the Services Manager by selecting "Run..." from the Start Menu. Type in "services.msc" without quotes and press enter. The Services console should display.

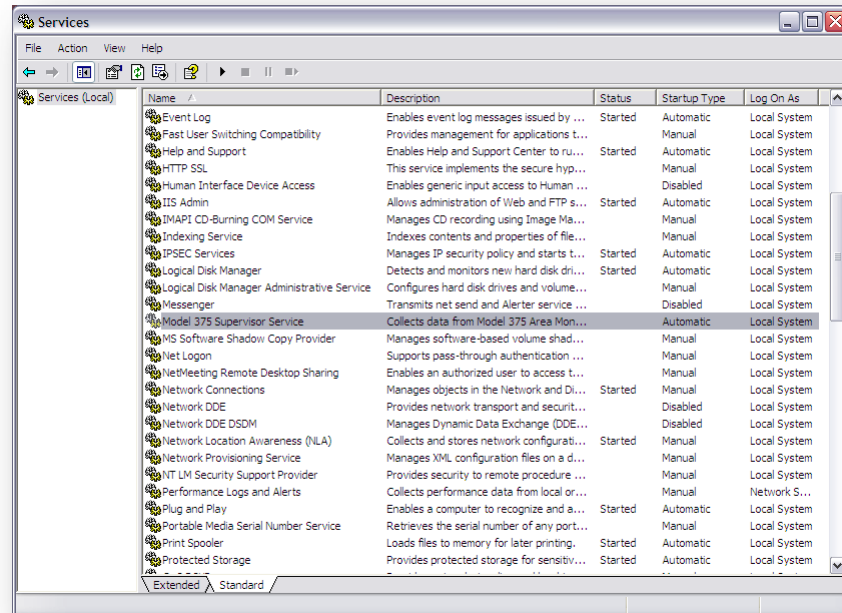


Figure 118 - Services

Check that the Model 375 Supervisor Service status is “Started” and that the Startup Type is set to “Automatic”.

If the service is not started, click on the Start Service button in the toolbar. If the Startup type is not “Automatic”, the service will not start automatically when the computer is started. Right-click on the Model 375 Supervisor Service and select Properties.

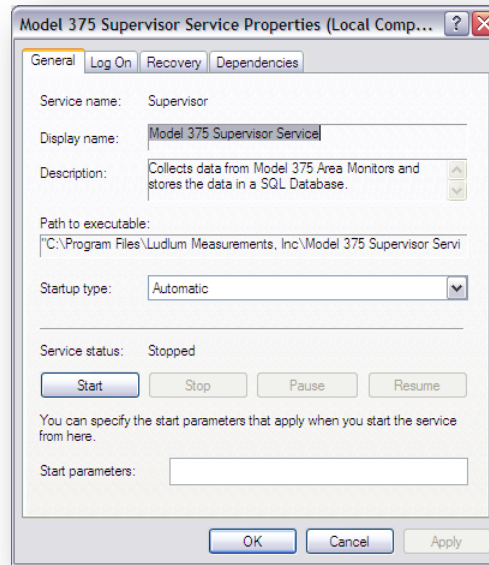


Figure 119 – Properties of the Model 375 Supervisor Service

Make sure the properties for the service match the settings in the screenshot above.

NOTE: It can take up to one minute before any data is saved in the database after the service has been started.

If the service will not start, check the Windows Event Viewer for information as to why it will not start. The service will log any error messages into the event log under the name “Supervisor Service”.

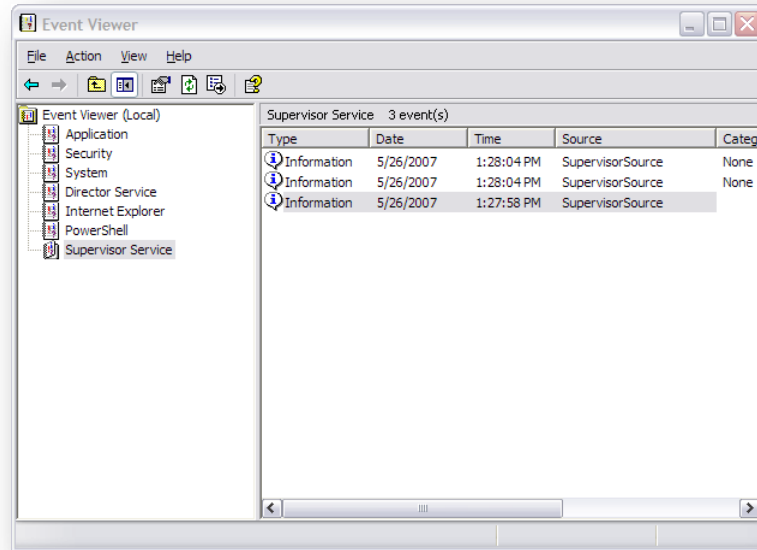


Figure 120 – Event Viewer

If the service is running and configured correctly, check to make sure that the service is successfully logging to the database.

To do this, go to the Start Menu and open SQL Server Management Studio under the “Microsoft SQL Server” program group. If you are running an express version of Microsoft SQL Server, open SQL Server Management Studio Express.

When the login screen appears, select “SQL Server Authentication” and log in using the System Administrator (“sa”) account. Your screen should now look like Figure 131.

NOTE: If you installed SQL Server 2008 Express from the LMI CD, you should have chosen the “sa” account password on page 50 of the “SQL Server 2008 Express Installation” section.

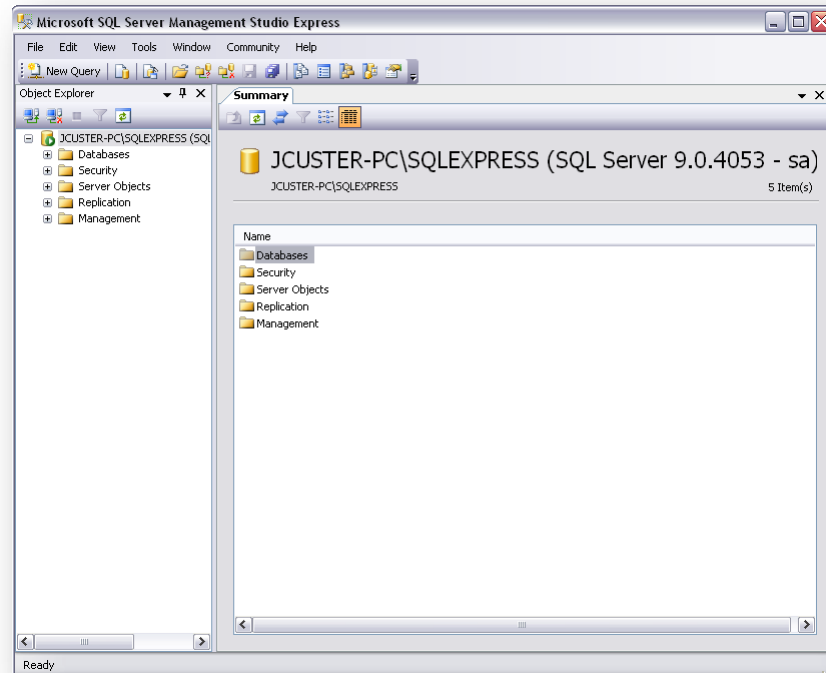


Figure 121 – SQL Server Management Studio Express

Click on the plus icon next to “Databases” in the left pane. Click on the plus icon next to “Imi_area_monitor”, then click on the plus icon next to the “Tables” folder. Your screen should now look like Figure 132.

If you have restarted the Model 375 Supervisor Service the “area_monitor” table should appear within 60 seconds. If the “area_monitor” table is not created within that time, refer to the “Configuring SQL Server Manually” section on page 59. Also, make sure that the server name, database user name, and database password in the Model 375 Supervisor Server Utility all match your SQL Server configuration.

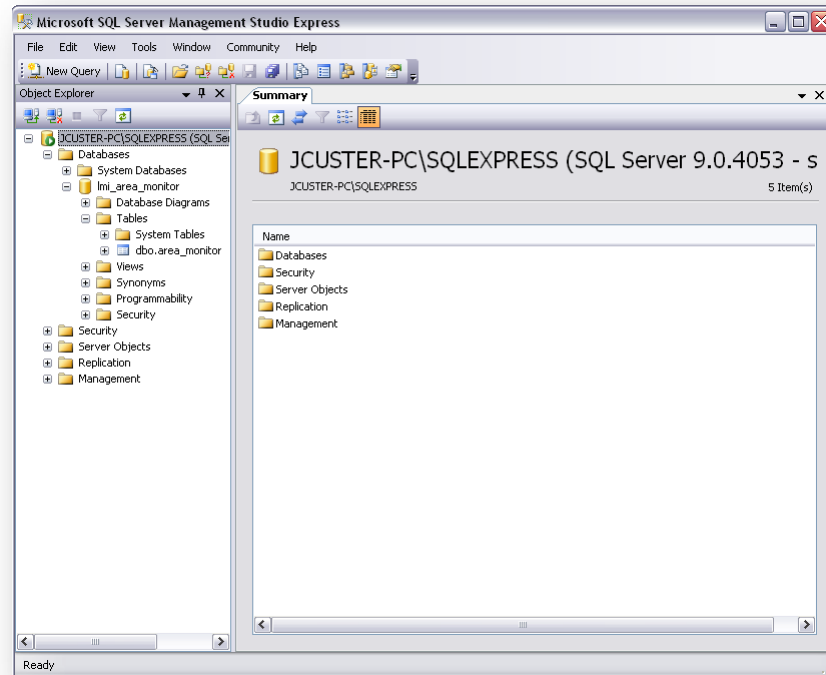


Figure 122 – Showing area_monitor table in the Imi_area_monitor database

Right-click on the “area_monitor” table in the left pane and click “Open Table”. Your screen should now resemble Figure 133.

If data is being logged into the “area_monitor” table, the Model 375 Supervisor Service is running correctly.

If data is not being logged into the “area_monitor” table, first check to make sure that your area monitors have been added to the Model 375 Supervisor Server Utility. For more information on the Supervisor Server Utility, refer to page 94.

If your area monitors appear in the Supervisor Server Utility, use either the web interface (firmware versions 39801N12 and later, page 89) or the Model 375 Setup Utility (firmware versions 39801N11 and earlier, page 91) to verify that the destination IP address matches that of the computer hosting the database. Also make sure that the network settings for each area monitor are correct in accordance with their location on your network.

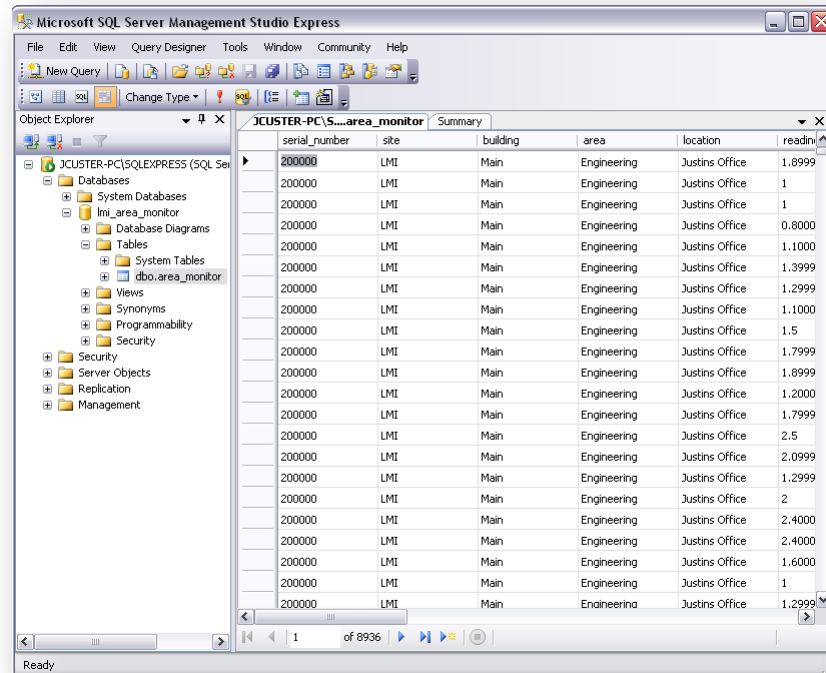


Figure 123 – Viewing records in the area_monitor table

Troubleshooting the Model 375 Web Page

The following is a list of errors that are commonly encountered with the Model 375 Webpage.

Error 404 or 404.2

This can indicate that the ISAPI and CGI Restrictions are set to deny ASP.NET v4.0.30319. First, open the IIS Manager. The IIS Manager is located in the Control Panel, under “Administrative Tools”. Double-click on ISAPI and CGI Restrictions and change the ASP.NET v3.0.30319 to Allowed. Do this for both the 32 and 64 bit versions.

Web Page does not load

First, open the IIS Manager. The IIS Manager is located in the Control Panel, under “Administrative Tools”.

Click on the plus icon next to your computer name, then click on the plus icon next to the “Web Sites” folder. Click on “Default Web Site” and see if it is running. If it is stopped, click the Play button under the Menu bar to start the web site.

If the web site is running and you still get this error, check to see if the “AreaMonitor” virtual directory is included in the Default Web Site. If it is not, refer to the “Configuring Internet Information Services” section for instructions on how to add the AreaMonitor virtual directory.

Directory Listing Denied

First, open the IIS Manager. The IIS Manager is located in the Control Panel, under “Administrative Tools”.

Click on the plus icon next to your computer name. Click on the plus icon next to the “Web Sites” folder. Click on the plus icon next to “Default Web Site”. Right-click the “AreaMonitor” virtual directory, then click on “Properties”.

Click the “Default Documents” tab. The first default document listed should be “CurrentStatus.aspx”. If CurrentStatus.aspx is not in the list, add it and move it to the top of the list.

If you have any further questions on how to add a default document to a virtual directory, refer to the “Configuring Internet Information Services” section.

Invalid object name “area_monitor”

If you get this error, then the “area_monitor” table does not exist in the SQL Server database.

If you have not started the Model 375 Supervisor Service, refer to the “Troubleshooting the Supervisor service” section on page 119 for details on how to start the service.

It takes the Supervisor service approximately 60 seconds to create the “area_monitor” table in the database once the service is started. Wait at least 60 seconds, then try to reload the web page again. If the web page still does not appear, the service may need to be restarted. Refer to page 119 for details on how to restart the Supervisor service.

Login failed for user “xxxxxx”

The most common reason for this error is that the username and/or password that is set in the Model 375 Supervisor Server Utility does not match the username and password that is set in Microsoft SQL Server.

Go to the Start Menu and open SQL Server Management Studio under the “Microsoft SQL Server” program group. If you are running an express version of Microsoft SQL Server, open SQL Server Management Studio Express. Refer to page 119 for instructions on how to log in, if necessary.

Click on the plus icon next to the “Databases” folder. Make sure that the “lmi_area_monitor” database is present. If it is not present, refer to the “Configuring SQL Server Manually” section on page 59.

Click on the plus icon next to the “Security” folder, click on the plus icon next to the “Logins” folder. There should be a login present other than the “sa” and the built in logins. If there is not, refer to the “Configuring SQL Server Manually” section on page 59.

Double-click on the “ludlum” login. **NOTE:** The login name may be different if you manually configured SQL Server.

Open the Model 375 Supervisor Server Utility. Click on the “Database Settings” tab and verify that the user name and password matches the user name and password from the login properties window in SQL Server Management Studio. When the user name and password is set correctly, click “Save Settings” in the Supervisor Server Utility.

NOTE: You may need to restart the Supervisor service at this time. Refer to page 119 for instructions on restarting the Supervisor service.

Default Web Site Won't Start – Unexpected Error 0x8ffe2740 occurred

If you get this error, another program on your computer is using TCP port 80, which is the port that IIS uses to host the web page.

Click the Start Menu, then click “Run”. Type “cmd”, without the quotation marks, and click “Enter”. In the command window, type in the following:

```
netstat -anop TCP | find “:80”
```

This will give you some details of what process is using TCP port 80. The only information we need here is the PID (process identifier).

The next step is to match this PID with an actual process that you can identify. To do this, type the following command in the command window:

```
tasklist /SVC /FI “PID eq xxxx”
```

where xxxx represents your PID number. This should give you a clear picture of what program is in use. Configure the offending program to use a different TCP/IP port, or shut the program down.

Could not load file or assembly 'App_Licenses' or one of its dependencies. The module was expected to contain an assembly manifest.

Go to the Control Panel, then click on "Add/Remove Programs". Click on "Microsoft .NET Framework 4.0". Click on the "Change/Remove" button. Select the "Repair" option and click "Next". Follow the prompts to repair your Microsoft .NET Framework installation.

If this does not resolve the error, call Ludlum Measurements for further assistance.

Current Status page shows no area monitors.

The Model 375 Web Page will only display area monitors that are added to the Supervisor service. To add an area monitor to the Supervisor service, use the Model 375 Supervisor Server Utility.

For instructions on how to use the Model 375 Supervisor Server Utility, refer to page 94.

Current Status page shows area monitor(s) with a status of "Missing".

Verify that the area monitor in question is powered on and connected to the network.

Verify that Windows Firewall is not turned on. If it is desired to use Windows Firewall in conjunction with the Model 375 Supervisor Service, configure Windows Firewall to allow the Model 375 Supervisor Service through the firewall.

If this doesn't fix the problem, use either the web interface (firmware versions N12 and later, page 89) or the Model 375 Setup Utility (firmware versions N11 and earlier, page 91) to verify that the destination IP address matches that of the computer hosting the Supervisor service. Also make sure that the network settings for the area monitor are correct in accordance with their location on the network.

Troubleshooting FTP Firmware Updates

Go through the following steps to troubleshoot the FTP firmware updates:

1. Verify that there is a folder named "Firmware" in the C:\Inetpub\ftproot folder. If the Firmware folder does not exist, create it.

NOTE: The name of the Firmware folder is case-sensitive!

2. Verify that the two firmware files provided by LMI are in the correct folder, which is C:\Inetpub\ftproot\Firmware.
3. Verify that the two firmware files provided by LMI have the correct extensions. The 39801Nxx.bin file should have its .bin extension, while the file titled "FirmwareVersion" should have NO extension.
4. Make sure that the FTP Publishing Service is running. To do this, go to "Run" in the Start Menu and type "services.msc", without the quotes. Scroll through the list of services and click "FTP Publishing Service". If the service is stopped, start the service.
5. Use either the web interface (discussed on page 89) or the Model 375 Setup Utility (discussed on page 91) to verify that the Destination IP Address of the area monitor is the same as the computer that is hosting the FTP site.
6. Verify that all firewalls, including Windows Firewall, are turned off on the computer hosting the FTP site.

Replacing Rabbit Ethernet Boards

The following steps will assist the user in replacing the Rabbit Ethernet board on the Model 375 Area Monitor.

The Model 375 Area Monitor will either have the Rabbit Ethernet board mounted to the side of the Area Monitor or inside of the area monitor. Refer to the appropriate instructions for your type of Model 375 Area Monitor.

Figure 134 shows an external Ethernet board, while Figure 135 shows an internal Ethernet board.



Figure 124 – External Ethernet Board

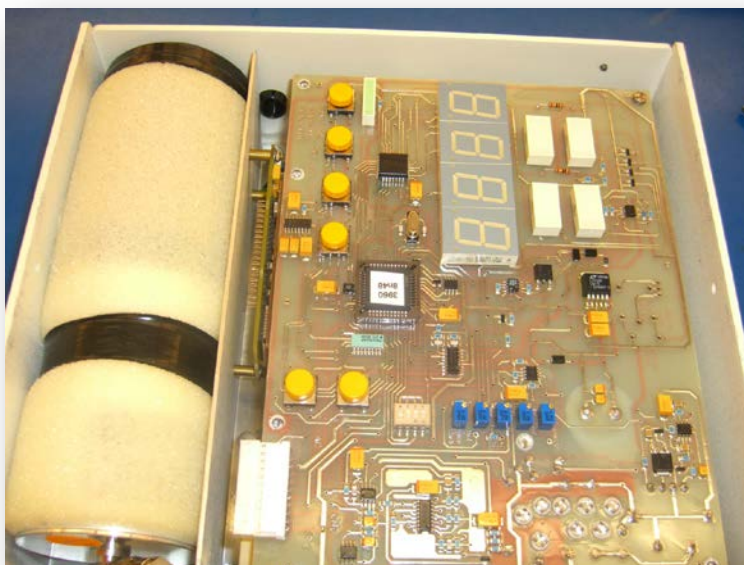


Figure 125 – Internal Ethernet Board

Replacing an External Rabbit Ethernet Board

1. Remove the four screws from the corners of the Ethernet board. See Figure 136.



Figure 126

2. Disconnect the 3-pin MTA connector from the Ethernet board to separate it from the area monitor. See Figure 137.

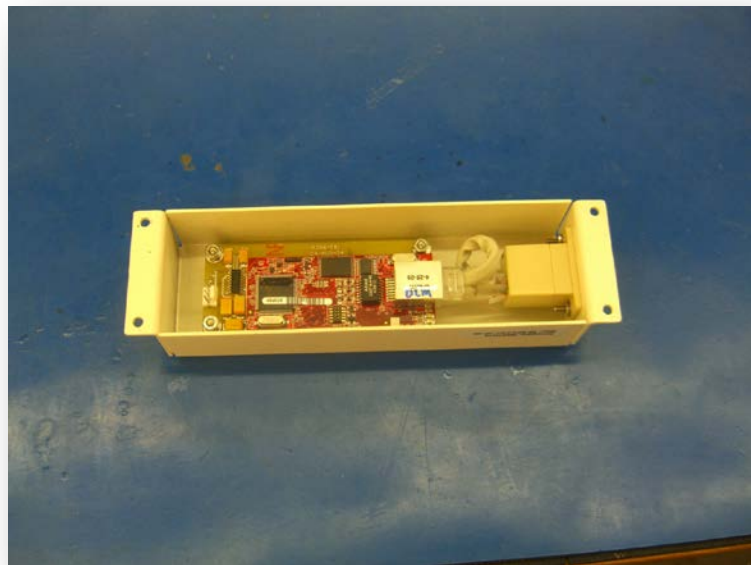


Figure 127

3. Disconnect the CAT-5 cable from the Rabbit board.

4. Remove the four nuts from the corners of the Rabbit board to separate the Rabbit board from its case. See Figure 138.



Figure 128

Replacing an Internal Rabbit Ethernet Board

1. Remove the outer case from the area monitor. See Figure 139.

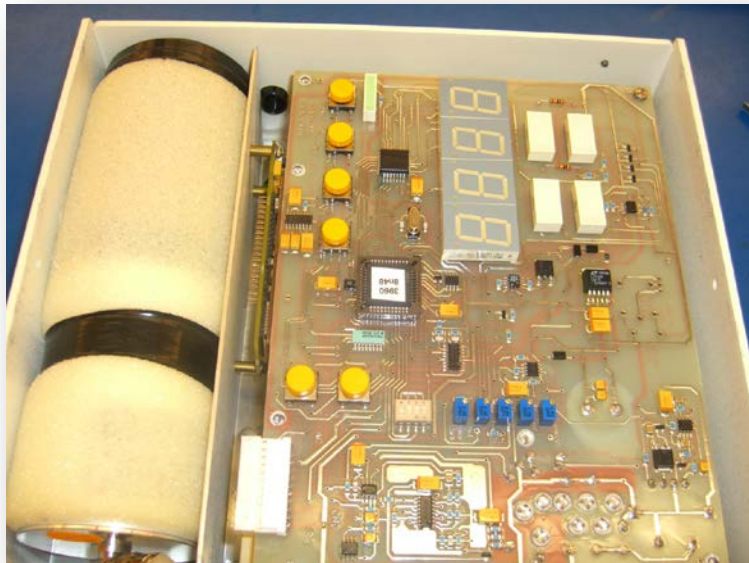


Figure 129

2. Remove the four screws from the corners of the main board and disconnect the MTA connector. See Figure 140.

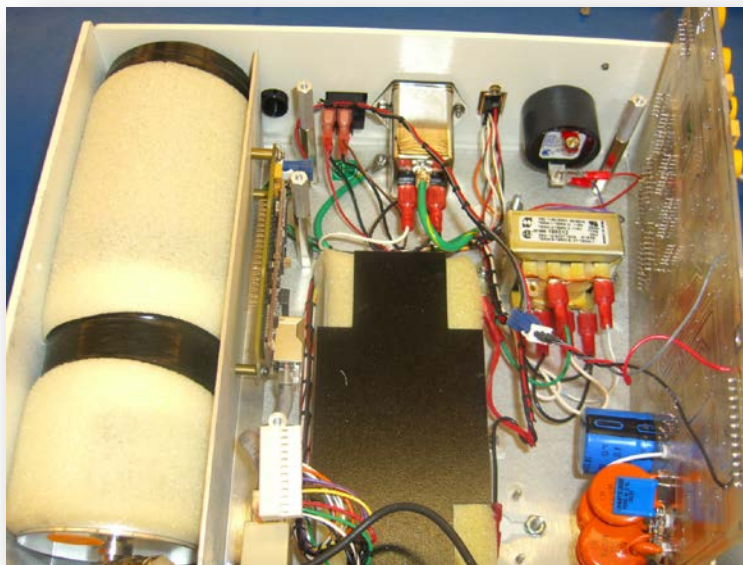


Figure 130

3. Remove the two nuts from the corners of the bracket holding the Ethernet board. See Figure 141.

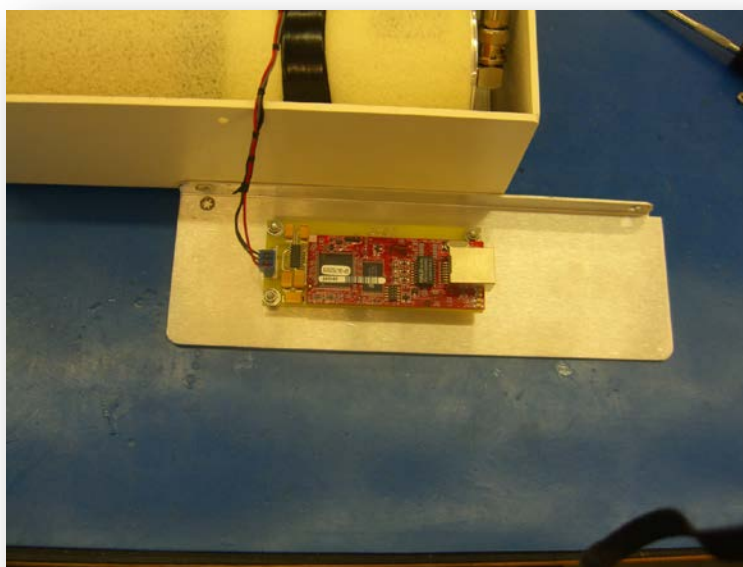


Figure 131

4. Remove the three nuts from the corners of the Ethernet board. See Figure 142.

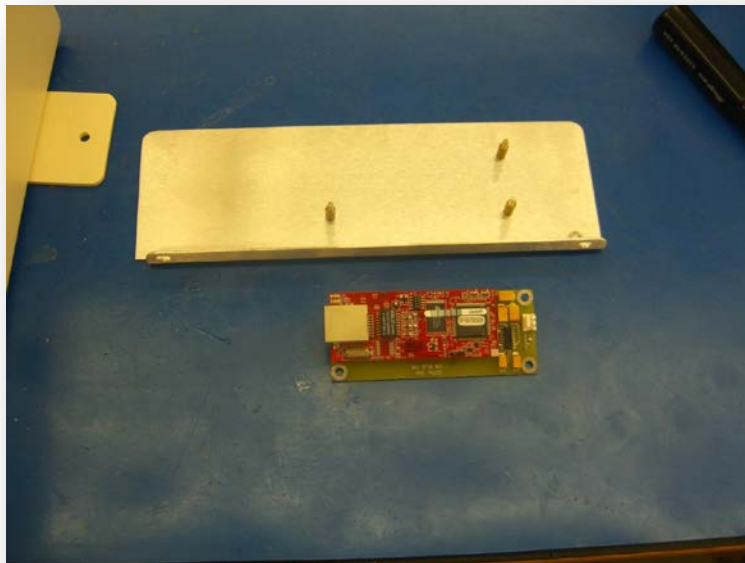


Figure 132